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Front cover: Velvet Swimming Crab *Macropipus puber*. Photo: *Paula Lightfoot*

Back cover: BioBlitz participants with course leader Dr Lin Baldock taking a break on Scarborough beach. Photo: *Paula Lightfoot*

The *Naturalist*

September - December 2011 Volume 136 Number 1078



Editorial

YNU's 150th birthday

As well as some celebratory events, the YNU's 150th year has seen some significant changes. Prominent among the changes has been the re-vamping of our publications with the disappearance of the *Bulletin* and the creation of the new-style *Naturalist*. The written and oral feedback we have received suggests that the change has been generally approved of, although some regrets have been expressed and there have been teething problems. Where comments have taken the form of letters to the editors we try to publish them and some are found in this issue.

A second intended and complementary change is the re-design of the website. This is in progress, a consultant has been appointed, and the re-designed site should be in operation in the next few months. It is hoped that the new website will provide an efficient and rapid means of communication with existing members as well as a vehicle for recruiting new members. However, not all members have access to or can use computers and *The Naturalist* will remain an important source of information to members.

As well as our usual Vice-County excursions, activities during our 150th year included the Scarborough BioBlitz and the residential weekend extension to the VC64 Malham Tarn excursion. Reports and reflections on these activities have been grouped together in a separate section of this issue.

Refereeing and peer review

From the letters that we have received there is considerable confusion about whether, with the merger of the *Bulletin* with *The Naturalist*, the practice of peer reviewing of papers has been abandoned. This note aims to clarify the situation.

An important distinction has to be drawn between the refereeing of papers and peer reviewing. All papers submitted to *The Naturalist* are subjected to two processes:

- refereeing to see whether the paper meets the requirements for publication in our journal;
- editing to ensure that the paper meets the conventions of the journal, e.g., with regard to the use of vernacular and scientific names, footnoting and referencing, etc.

Editing is a technical process and is logically subsequent to refereeing, although, as far as possible, the two are carried out simultaneously. We aim to make refereeing a positive process. The objective of the referee is to determine whether the paper is suitable for publication and if not, to suggest modifications that will make it publishable. Where a paper is written by someone with no experience of writing papers for publication, and one of the aims of the Editorial Board is to encourage new authors, the referee will try to suggest improvements in presentation, argument or content or possibly all three, to make the paper publishable. Our objective as an Editorial Board is to produce satisfied authors as well as satisfied readers. The Editorial Board does as much as possible of the refereeing itself but, with the wide range of subjects covered by *The Naturalist*, we cannot do all refereeing 'in house'. However, we can draw on a pool of experienced referees, mostly YNU members, who have done the job in the past.

While all papers are refereed not all are peer reviewed. The process of peer reviewing involves anonymous referees (normally two) who review an anonymous paper to determine whether it meets academic criteria for publication. Normally this requirement is interpreted to mean that the paper in some way 'advances knowledge' in the subject. In the past, particularly in the pure sciences, peer reviewing controlled the direction and rate of development of academic disciplines. With the changes in the funding of higher education that have taken place over the last two decades, publication rates of peer reviewed articles have become a major factor in determining the academic standing of both individual academics and their institutions. As such, it affects academic promotion prospects and university funding.

Peer reviewing cannot be done 'in house' since the editorial board will know who has written the paper. For peer reviewers we must go outside, and often outside of the YNU. Consequently, unlike the process of refereeing, we cannot ensure that peer reviews are constructive and helpful to authors.

Our practice is to submit unsolicited research-based papers by career academics to peer review. Where unsure we will ask the author what he or she wants and will always offer peer review if requested.

Cover photographs for *The Naturalist*

The editors invite members to submit photographs to be used for the cover of *The Naturalist*. Photographs should be of Yorkshire wildlife taken in the current year. Submissions should be in JPEG format and of at least 1.5 megabytes in size. All photographs sent to this publication should have a filename which includes the species name, where taken and the name of the photographer. This last is vital to ensure correct attribution of the photograph.

The results of hair tube survey work to determine the presence of Red Squirrel *Sciurus vulgaris* and Grey Squirrel *Sciurus carolinensis* in woodland sites in the north-west of the Yorkshire Dales National Park*

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Introduction

The distribution of Red Squirrels (Plate I, facing p180) in the north-west of the Yorkshire Dales National Park (YDNP) was, until the late 1990s, thought to have been restricted to the Cumbrian parishes of Dent, Garsdale and Sedbergh. Since that time there has been an increasing number of Red Squirrel records in adjacent areas of North Yorkshire, notably from Widdale and Snaizholme.

Visual sightings tend to be biased towards areas where there are people living close to or within woodlands where squirrels can be seen visiting bird tables or specific Red Squirrel supplementary feeders. However, in woodlands with limited or no public access little was known about the distribution of Red and/or Grey Squirrels. In order to try and determine a more accurate picture of the distribution of Red and Grey Squirrels in a number of woodlands in the YDNP where there were a limited number of, or no, previous records, hair tubes and squirrel feeders were put up and monitored at specific times during the year. Hair tubes are a simple yet effective way of determining which species of squirrel may be present in a woodland. As squirrels enter the tube to collect food they leave hairs on sticky pads and these can be examined under a microscope to determine whether they have come from a Red or Grey Squirrel. The early results from these initial survey sites provided new information on the presence of both Red and Grey Squirrels, therefore justifying the continuation of the monitoring work.

Following collation of sightings and the results of the hair tube analysis, Court and Fawcett (2008) concluded that there had been a genuine increase in the distribution of Red Squirrels in the Richmondshire and Craven areas of the National Park since 2000.

Hair tubes can only determine the presence of a particular species and are not intended to provide information on population densities or trends. Population densities can be estimated by undertaking visual surveys along predetermined transects through woodland (Gurnell *et al.*, 2001). The most accurate method involves determining the perpendicular distance of any squirrel from the transect route so that the squirrel density in a particular woodland area can be calculated. These methods require a relatively open canopy and woodland structure where it is possible to see squirrels at a distance, and are therefore unsuited to densely planted commercial conifer woodlands. The majority of conifer woodlands in the YDNP are at or approaching the first thinning or felling stage, and so the trees are too tightly spaced to enable visual transects or drey counts to be undertaken.

Squirrel density in a woodland can be estimated by establishing squirrel feeding transects where the total numbers of stripped and normal cones along a specific transect route are counted every two or three months. An estimate of squirrel density can then be calculated

using these data, the average energy values of the conifer seeds of the particular tree species present and the total area of woodland (Gurnell *et al.*, 2001). There are, however, limitations to this methodology. These include temporal and spatial differences in cone production within a woodland resulting in squirrels using different parts of a woodland at different times of the year, and that the examination of core cones cannot determine which species of squirrel are present. In addition, it does not take into account the amount of intentional supplementary feeding in gardens and additional food sources that squirrels are known to utilise, such as Pheasant *Phasianus colchicus* feeding hoppers in woodland.

Although the hair tube methodology is not intended to determine population density or specific trends, the results from the survey work in the YDNP suggest that this method of survey work can be used to determine squirrel distribution and give an indication of changes.

Methodology

The number of sites selected for survey was primarily dependent on the number of people from the National Park's Dales Volunteer Service who offered to assist with the monitoring program. Initially there were enough volunteers to cover seven different sites in Richmondshire and South Lakeland but several other survey sites were added during 2007, including Greenfield in Craven, where hair tube survey sites were established in eight different 1km x 1km squares within the plantation.

Sites were selected for survey where there were no confirmed records of either species of squirrel in the woodlands even though they were close to sites where there were confirmed Red Squirrel records, or where there were unconfirmed records of Red Squirrels from the woodland. In some cases the hair tubes were put in several woodlands where it was thought that only Reds were present in order to try and establish whether Greys were also present. As a control measure, one site (Freeholder's Wood) was initially selected in what was believed to be a Grey Squirrel only area. The locations of the survey sites are shown in figure 1.

At each survey site a feeder and hair tube were put up at an easily accessible location within the woodland. The tubes were made from 300mm lengths of 65mm x 65mm square section PVC drainpipe and were wired to the top side of near horizontal branches at approximately 1.5m above the ground. Plastic blocks approximately 60mm x 60mm x 6mm wrapped in double-sided adhesive tape were fixed to the underside of the top section of each open end of the sample tube. Each tube was baited with a mix of maize, hazelnuts, monkey nuts, peanuts and sunflower seeds. The feeders and hair tubes were baited and pads attached and left for one week before the pads were labelled and removed for analysis.

The method used to examine the pads followed that described by Gurnell *et al.* (2001). Each pad was viewed under a microscope through the wall of the polythene bag to avoid any cross-contamination. Classification relied on the kidney-shaped cross section of Red Squirrel hair and the oval cross section of Grey.

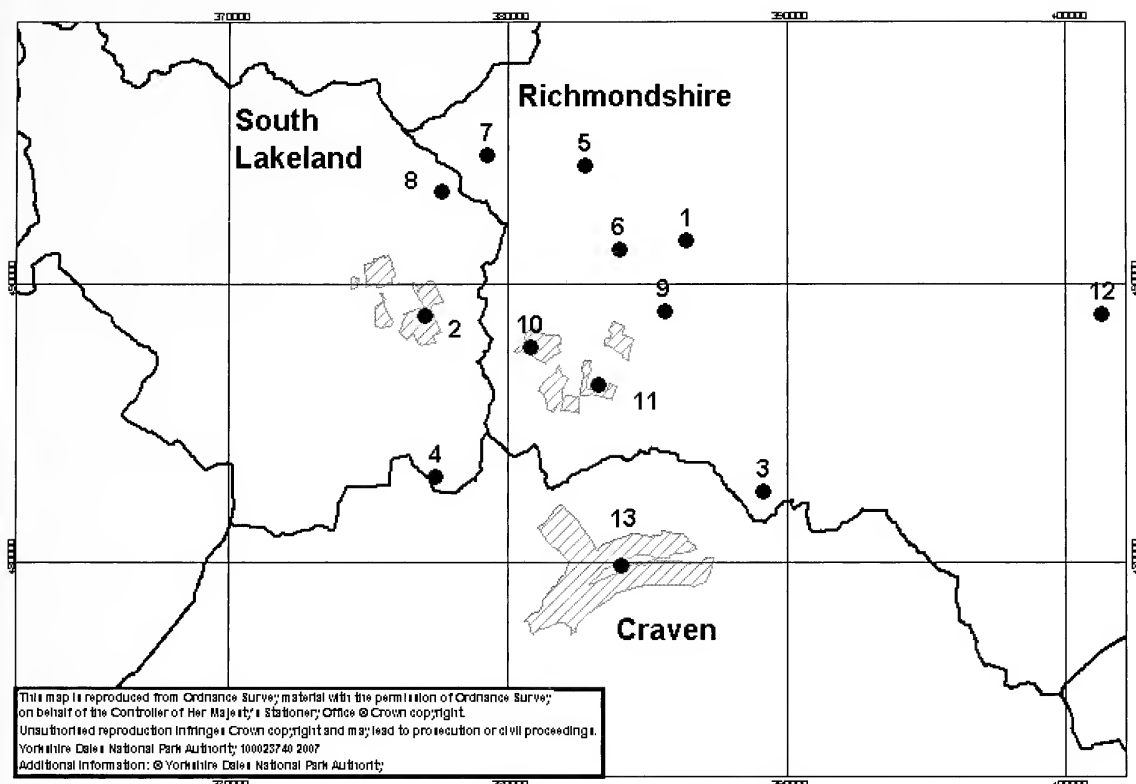


Fig 1. The location of hair tube survey sites in the Yorkshire Dales National Park.

Key to site numbers: 1. Shaw Gill; 2. Cowgill; 3. Raydale; 4. Dentdale; 5. Cotterdale; 6. Collier Holme; 7. Lunds; 8. Grisedale; 9. Thornemire; 10. Ranley Gill (includes sites Ranley Gill Upper & Lower and Widdale Foot); 11. Snaizholme; 12. Freeholders (includes Freeholder 1 and 2) and 13 Greenfields (Includes East 1-4 and West 1-4).

Under oblique illumination, a transversally orientated hair exhibits a readily discernible linear reflection from the cuticle. In the case of Red Squirrel hair, the kidney section presents not one but three curved surfaces (two convex and a concave) to the incident light which produces up to three linear reflections. The classification technique, therefore, was to place the hair pad on the stage and continually rotate it to bring each hair to be classified at right angles to the direction of illumination, noting the reflection.

In addition to the hair tube data records of Grey Squirrels, trapped as part of a coordinated control program carried out by a full-time Red Squirrel Conservation Officer working in Greenfield, are shown in Fig. 2.

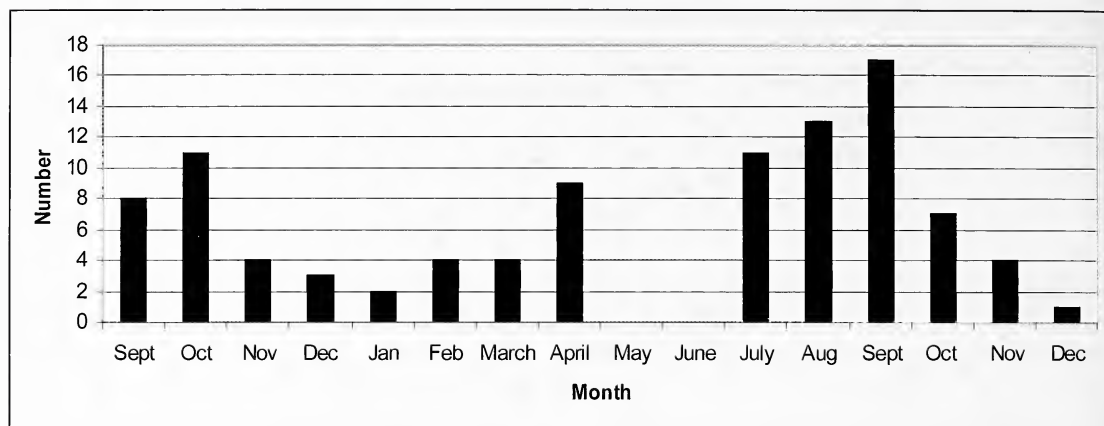


Figure 2. The number of Grey Squirrels trapped in Greenfield plantation between Sept 2009 and Dec 2010.

Results

The results from hair tube survey sites in Richmondshire and south Lakeland are shown in Table 1. Red Squirrels were detected at all sites on at least one survey date during the study period; there were six sites where only Red Squirrels were detected and both species were recorded at nine sites. The results from hair tube survey sites in Greenfield plantation are shown in Table 2. At one time or another, all sites recorded both species. The numbers of Grey Squirrels trapped in Greenfield are shown in Fig 2. The numbers peak in autumn, in both years, presumably after the recruitment of young from late (summer) litters.

Table 1. The results of hair pad analysis from woodland sites in the north-west of the Yorkshire Dales National Park.

(Key: N = No hair on pads, 0 = no samples taken).

	May 05	Jul 05	Sep 05	Nov 05	Jan 06	Mar 06	May 06	Aug 06	Nov 06	Feb 07	May 07	Aug 07	Nov 07
Shaw Ghyll	0	Grey	N	Both	Both	Both	Grey	0	Both	0	Grey	Grey	N
Cowgill	Red	Red	Red	0	Red	Red	N	Red	Red	Red	Grey	N	Both
Raydale	N	Grey	Grey	0	N	N	N	N	N	Red	N	Red	Red
Denthead		N	N	Red	Red								
Cotterdale	Red	Red	Red	N	N	Red	Red	Red	Red	N	Red	Red	Red
Collier Holme		N	Grey	N	Red								
Lunds	N	Red	Red	Red	0	Red	Red	Red	Red	Red	Both	Red	N
Grizedale		Red	Grey	Red	Both								
Thornewmire		Grey	Grey	Grey	Grey								
Widdale Foot	0	Red	Red	Red	0	Red	Red	Red	0				Red
Snaizholme		Red	Red	Red	Red								
Freeholders 1	0	0	Grey	Both	Grey	0	Both	Both	Both	N	N	N	Both
Freeholders 2	0	Grey	Both	Grey	Grey	0	Both	Both	Both	N		N	Grey
Ranley Gill Upper		N	Red										
Ranley Gill Lower		Red	Red										

Table 1 continued.

	Feb 08	May 08	Aug 08	Nov 08	Feb 09	May 09	Aug 09	Nov 09	May 10	Aug 10	Nov 10
Shaw Ghyll	Grey	Grey	Grey	Grey	Grey	Both	Grey	Grey	Grey	Grey	0
Cowgill	Red	Red	Red	Both	N	N	N	N	Red	Red	Red
Raydale	Red	Red	Red	Red	Red	Red	N	N	Red	Red	Red
Denthead	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
Cotterdale	N	Red	Red	Red	N	Red	N	0	Red	N	Red
Collier Holme	N	Grey	N	N	N	N	Grey	0	Grey	Grey	Grey
Lunds	Red	Red	N	N	0	N	N	N	N	Grey?	N
Grizedale	N	N	Red	Red	0	Red	Red	Red	Red	N	Red
Thornemire	Grey	0	0	Red	0	Red	0	0	0	0	0
Widdale Foot	Red	Red	Red	Red	0	0	0	0	0	0	0
Snaizholme	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
Freeholders 1	Both	Both	0	0	0	?	0	0	0	0	0
Freeholders 2	Both	Both	N	0	0	0	N	0	0	0	0
Ranley Gill Upper	Red	Red	Red	Red	Red	0	0	0	0	0	0
Ranley Gill Lower	Red	Red	Red	Red	0	0	0	0	0	0	0

Table 2. The results of hair pad analysis from eight sites in Greenfield plantation in the north west of the Yorkshire Dales National Park.
(Key: N = No hair on pads, 0 = no samples taken).

	Apr 07	May 07	Jun 07	Jul 07	Aug 07	Sep 07	Nov 07	Feb 08	May 08
East 1	Grey	Both	Both	Grey	0	Red	Grey	Grey	Both
East 2	N	Grey	N	Grey	0	N	Grey	Grey	Both
East 3	N	Grey	Grey	N	0	N	0	Grey	Grey
East 4	Red	N	N	Grey	0	Red	Red	Red	Both
West 1	Red	Red	N	N	N	N	0	Grey	Grey
West 2	Both	N	Grey	N	Grey	Grey	0	N	N
West 3	N	N	Grey	N	Red	Grey	0	N	Grey
West 4	N	N	Both	N	N	N	Grey	Red	Grey

	Aug 08	Nov 08	Feb 09	May 09	Aug 09	Nov 09	Mar 10	Jun 10	Sep 10
East 1	N	Both	Both	Both	Grey	Grey	Grey	Grey	Grey
East 2	Grey	Red	0	Red	N	Red	Grey	N	N
East 3	Grey	Red	Red	Red	Grey	Red	N	N	Red
East 4	Grey	Both	Red	Red	Grey	Red	Red	N	Red
West 1	N	Both	Both	Grey	Grey	Red	Grey	Grey	Red
West 2	Grey	N	N	Red	Grey	Grey	Red	Red	Red
West 3	Grey	Grey	N	Red	N	N	Red	Red	Red
West 4	Red	N	N	N	N	N	N	Red	Red

Discussion

Within the selected woodlands, the hair tube survey work has proved very effective in determining the presence of squirrels, even when only a single hair tube and feeder have been used in a relatively large woodland area. All of the survey sites recorded the presence of Red and/or Grey Squirrels during the study period. In most cases, the failure to collect samples was due to the pads falling off before any hair sample could be taken. This was particularly problematic when the tubes were wet.

As a result of the enthusiasm of the Dales Volunteers involved in the monitoring work, it was possible to increase the number of hair tube survey sites during the latter part of the study period. This included surveying eight different sites in Greenfield Plantation. The large size of this plantation (1054 ha), the very small percentage of mixed broadleaved trees (<3%) that favour Grey Squirrels and the local topography that limits the number of potential Grey Squirrel incursion routes mean that Greenfield is the largest area of potentially suitable habitat at the southern edge of the range where Red Squirrels have the best chance of long-term survival. The plantation was not considered during the initial reserve selection process because there were no confirmed Red Squirrel records. However, following the hair tube survey work carried out by the YDNPA, a proposal was put to the Red Alert North England Steering Group in 2008 which led to Greenfield being designated as a Red Squirrel Reserve (now referred to as a Refuge) later that year.

The hair tube methodology was never intended to be used to determine population density or provide accurate population trends. However, considering that the standardised methodologies for determining these data are not appropriate or are difficult to implement in the Dales, the results of the continued hair tube survey work do represent an effective method of determining the population status of squirrels within woodlands in the Yorkshire Dales.

The results from the Snaizholme and Ranley Gill (the latter site includes Widdale Foot) Red Squirrel Refuge Woodlands show only the presence of Red Squirrels. It should be noted that, although no samples have been taken from the latter site since February 2009, only a single Grey Squirrel has subsequently been reported by local residents.

In Cowgill, one of the Garsdale and Mallerstang Refuge Woodlands, the results indicate that only Reds are regularly present, with records of Greys in May 2007 and Nov 2008 thought to relate to transient animals. The survey sites at Shaw Gill and Collier Holme in the buffer area are small, principally broadleaved woodlands where Greys are resident and there are only occasional records of Reds. Thorney mire is also an area of broadleaved woodland in the buffer area and is potentially one of the main incursion routes for Greys to reach the Widdale Reserve Woodlands from Wensleydale. Results show the regular presence of Greys with Reds occasionally recorded.

Other woodlands surveyed included Cotterdale, an area of conifer woodland in the buffer area where only Reds have been recorded. Survey work was undertaken in Lunds, a conifer woodland in the Garsdale and Mallerstang buffer area where Reds were present prior to clear-felling in 2008. The survey results have also confirmed the regular presence of Reds in Raydale, Denthead and Grisedale areas where, prior to this survey work, there had been no reports of Red Squirrels. The records from Raydale would also tentatively suggest that there has been relatively recent colonisation by Red Squirrels which would fit with the recent easterly increase in range within the YDNP found by Court and Fawcett (2008).

The presence of Red Squirrel hairs in samples taken from Freeholders' Wood, near Aysgarth, was completely unexpected because the wood is approximately 14km distant in a straight line from the nearest known population of Red Squirrels. Given that dispersal routes would be more likely to follow the river valleys rather than direct straight line movement over the open fells, the actual distance travelled is likely to be much greater. Despite the popularity of Freeholders' Wood with visitors, there had been no recent sightings of Red Squirrels in this woodland prior to the hair tube survey work.

The hair tube survey results from Greenfield show that the number of survey sites within the plantation where Grey Squirrels have been recorded has reduced since trapping started in Sept 2009. Although further monitoring work is required to see if this trend continues, the results suggest that the concerted trapping effort being carried out is having an impact on the Grey Squirrel population. Although Grey Squirrels have bred within the plantation (Holly Rogerson, pers. comm.), even prior to trapping it was considered that due to the small percentage of large seeded broadleaved tree species present, any breeding population would be low. The increase in survey sites where Grey Squirrels were recorded in some months, particularly in late summer, may be indicative of animals dispersing from adjacent areas of Wharfedale and/or Ribblesdale, rather than the offspring of Greys resident in Greenfield.

Acknowledgements

The authors would like to thank YDNPA Area Rangers Matt Neale, Michael Briggs and Ian Mann for the coordination of the survey work; all the Dales Volunteers who have assisted with the field work; all the landowners and managers for kindly allowing access to the woodlands. In particular we would like to thank Holly Rogerson (Tilhill Forestry) for her work in Greenfield and provision of the Greenfield trapping data. Finally we would like to thank Hannah Fawcett and Kate Wilding for their comments made during the preparation of this paper.

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What happened to the wild flowers in Harewood Churchyard?

Stanley Evans, Ilkley

All Saints Church, Harewood, was built in its present form in the early 15th century. It is now a Grade 1 Listed building containing a unique collection of six alabaster monuments dating from 1429 to 1510. The church is enclosed on the north, east and south sides by nearly two acres of churchyard which, in turn, is enclosed by trees. The churchyard ceased to be a village burial place in 1979 and was vested in the Churches Conservation Trust.

In the mid-1980s, the churchyard was covered by a dense growth of brambles *Rubus* spp., grasses and Rose-bay Willow-herb *Chamerion angustifolium*. My friend John Jenkins and I worked hard in 1989 to cut down and burn the abundant vegetation to discover ancient box tombs and memorials dating from the 17th century to Edwardian times. We decided to manage the churchyard by mowing the vast majority of it once a year, mainly in July, and tidying up in the autumn. Fortunately, we were able to obtain help from local farmers who put their sheep in to graze the grass short before the winter set in. For the next 15 years or so, the same maintenance was generally practised, firstly by us and later, more laxly but still following the same general pattern, by the Harewood Estate. The abundance of wild flowers was recorded each year.

Since the opening up of the churchyard, the wonderful swathes of Snowdrops *Galanthus nivalis* round the outside walls, the Bluebells *Hyacinthoides non-scripta* south of the church, the cultivated Daffodils *Narcissus* spp., planted possibly 100 years ago (as judged by the varieties), a patch of delightful Wild Daffodils *Narcissus pseudonarcissus* and the shy-flowering Lesser Celandine *Ranunculus ficaria* have returned undiminished in their established areas each year. (A full list of plant species can be found in Table 1.)

What characterises those flowers which survived the cutting and grazing has been the way the seasons have influenced their occurrence and abundance. For example, Primroses *Primula vulgaris* reliably reappear in the same areas north of the church but do so in variable abundance each year. They have never established themselves south of the church.

There have been some notable losses. The fine show of Hedge Bindweed *Calystegia silvatica* along the yard's north wall was slowly destroyed by the cutting. Rather surprising, and more welcome, was the rapid suppression of the Brambles and, rather more slowly, the Rose-bay Willow-herb. More usually, though, the wild flowers which were present in the first years can still be found. The changes in their apparent abundance from the effect of season, either directly on the plants or from secondary effects such as the occurrence of rusts and the heavy attack of the larvae of the leafbeetle *Phaedon tumiludus* on Hogweed *Heracleum sphondylium*, have been interesting.

The shade from the churchyard wall and the tall trees surrounding it seem to produce local conditions which favour some flowers. Stinging Nettles *Urtica dioica* have persisted there and have spread very significantly. Extra cutting or a spray has sometimes been used to restrict them. Each year Goutweed *Aegopodium podagraria*, Dog's Mercury *Mercurialis perennis* and Ground-ivy *Glechoma hederacea* have grown in the shelter of the walls but not, perhaps, quite as abundantly now as in the past. Enchanter's-nightshade *Circaea lutetiana* has remained in these more heavily shaded areas and amongst the tall box tombs, places that have tended to be favoured also by Wood Forget-me-not *Myosotis sylvatica*.

Lords-and-ladies *Arum maculatum* has become more numerous over the years, and is also nearly all by the walls.

In the more open areas away from the walls there is a greater mix of flowers. It is here where some of the common members of the flora survive. Look for them and you can usually find an occasional delicate flower of the Barren Strawberry *Potentilla sterilis*, maybe a ragwort *Senecio* sp. and, usually, Cuckooflower *Cardamine pratensis*, Harebell *Campanula rotundifolia*, Meadow Buttercup *Ranunculus acris* and Black Knapweed *Centaurea nigra*.

Among the more abundant flowers there have been some noticeable changes. The rather dull Common Sorrel *Rumex acetosa* has, at the time of flowering, become much more dominant. Bluebells (all native) have thickened up to the north of the church and Germander Speedwell *Veronica chamaedrys* has become more abundant, often producing a bed of beautiful blue flowers by the church's south wall. Creeping Buttercup *Ranunculus repens* has spread along the pathways. On the other hand, there has been something of a decline in Pignut *Conopodium majus* and Crosswort *Cruciata laevipes*. The loss of Cow Parsley *Anthriscus sylvestris*, Red Campion *Silene dioica*, Meadow Cranesbill *Geranium pratense*, Creeping Thistle *Cirsium arvense*, Greater Stitchwort *Stellaria holostea* and Heath Bedstraw *Galium saxatile* have been more readily noticeable. The decline in numbers has come about either by restriction in their areas, as with Black Knapweed and Cow Parsley or simply a thinning of the population. The great difference in the appearance of flowers and foliage between seasons has made it difficult to decide whether the populations of Bird's-foot-trefoil *Lotus corniculatus*, Lesser Stitchwort *Stellaria graminea* and Common Mouse-ear *Cerastium fontanum* have generally increased or decreased over the years. Annuals and biennials, such as Wood Forget-me-not, ragworts, Hogweed and Lesser Burdock *Arctium minus*, which have to re-establish themselves regularly among what seems to be very competitive vegetation, have understandably fluctuated in numbers.

One episode of note was the occasion when the churchyard had been opened up, the grass cleared and the ground left pretty bare. That year over the whole of the area there was a prolific appearance of Three-nerved Sandwort *Moehringia trinervia*. This little flower was soon crowded out in later years and hardly ever appeared again. Most mysterious has been the sudden appearance of a flower somewhere it had never been seen before nor has been since. This happened with Harebell *Campanula rotundifolia* in the middle of the grassy area south of the church. One year a substantial clump of Bugle *Ajuga reptans* grew unexpectedly on the edge of the pathway just inside the gate but once there it reappeared in later years.

The greatest shift in species was probably amongst the grasses (Plate III). The types of grasses usually associated with hedgerows, such as False Oat-grass *Arrhenatherum elatius* and tussock-forming plants, such as Cock's-foot *Dactylis glomerata*, have greatly declined to be largely replaced with Yorkshire-fog *Holcus lanatus* and Creeping Soft-grass *Holcus mollis* but, as with the wild flowers, the original grasses can still all be found.

Editor's note: Stanley Evans submitted this article early in 2011. Very sadly, he died in May, aged 84. He was a keen experimental botanist, one of his projects being to germinate seeds collected from 134 common plants in Yorkshire and the Cotswolds and then sketch the seedlings. Eventually, he donated his sketches to the BSBI and some of them were published, one at a time, in the BSBI News. The cumulative index for BSBI News (1972-2009) which lists those drawings published, can be found at:

<http://www.watsonia.org.uk/BSBINewsIndex.pdf>. Scanned versions of BSBI News can be found at http://www.watsonia.org.uk/html/bsbi_news_1.html.

Table 1. Wild flowers in Harewood Churchyard

<i>Achillea millefolium</i>	Yarrow	<i>Mycelis muralis</i>	Wall Lettuce
<i>Aegopodium podagraria</i>	Ground-elder	<i>Myosotis sylvatica</i>	Wood Forget-me-not
<i>Ajuga reptans</i>	Bugle	<i>Narcissus pseudonarcissus</i>	Wild Daffodil
<i>Anthriscus sylvestris</i>	Cow parsley	<i>Ornithogalum umbellatum</i>	Star-of-Bethlehem
<i>Arabidopsis thaliana</i>	Thale Cress	<i>Plantago lanceolata</i>	Ribwort Plantain
<i>Arctium minus</i>	Lesser Burdock	<i>Plantago major</i>	Greater Plantain
<i>Arum maculatum</i>	Lords-and-ladies	<i>Potentilla sterilis</i>	Barren Strawberry
<i>Bellis perennis</i>	Daisy	<i>Primula veris</i>	Cowslip
<i>Calystegia sepium</i>	Hedge Bindweed	<i>Primula vulgaris</i>	Primrose
<i>Campanula rotundifolia</i>	Harebell	<i>Ranunculus acris</i>	Meadow Buttercup
<i>Capsella bursa-pastoris</i>	Shepherd's Purse	<i>Ranunculus repens</i>	Creeping Buttercup
<i>Cardamine hirsuta</i>	Hairy Bittercress	<i>Ficaria verna</i>	Lesser Celandine
<i>Cardamine pratensis</i>	Cuckooflower	<i>Rubus fruticosus</i>	Bramble
<i>Cerastium fontanum</i>	Common Mouse-ear	<i>Rubus idaeus</i>	Raspberry
<i>Centaurea nigra</i>	Common Knapweed	<i>Rumex acetosa</i>	Common Sorrel
<i>Circaea lutetiana</i>	Enchanter's Nightshade	<i>Rumex obtusifolius</i>	Broad-leaved Dock
<i>Cirsium arvense</i>	Creeping Thistle	<i>Rumex sanguineus</i>	Wood Dock
<i>Cirsium vulgare</i>	Spear Thistle	<i>Sagina procumbens</i>	Procumbent Pearlwort
<i>Conopodium majus</i>	Pignut	<i>Sambucus nigra</i>	Elderflower
<i>Cruciata laevipes</i>	Crosswort	<i>Scrophularia nodosa</i>	Common Figwort
<i>Dactylorhiza fuchsii</i>	Common Spotted Orchid	<i>Senecio jacobaea</i>	Common Ragwort
<i>Epilobium angustifolium</i>	Rosebay Willowherb	<i>Senecio vulgaris</i>	Groundsel
<i>Epilobium ciliatum</i>	American Willowherb	<i>Silene dioica</i>	Red Campion
<i>Epilobium montanum</i>	Broad-leaved Willowherb	<i>Stachys sylvatica</i>	Hedge Woundwort
<i>Epilobium tetragonum</i>	Square-stalked Willowherb	<i>Stellaria alsine</i>	Bog Stitchwort
<i>Galanthus nivalis</i>	Snowdrop	<i>Stellaria graminea</i>	Lesser Stitchwort
<i>Galium aparine</i>	Cleavers	<i>Stellaria holostea</i>	Greater Stitchwort
<i>Galium saxatile</i>	Heath Bedstraw	<i>Stellaria media</i>	Common Chickweed
<i>Geranium pratense</i>	Meadow Crane's-bill	<i>Taraxacum officinale</i>	Dandelion
<i>Geranium robertianum</i>	Herb Robert	<i>Trifolium dubium</i>	Lesser Trefoil
<i>Glechoma hederacea</i>	Ground-ivy	<i>Trifolium pratense</i>	Red Clover
<i>Hedera helix</i>	Ivy	<i>Trifolium repens</i>	White Clover
<i>Heracleum sphondylium</i>	Hogweed	<i>Tussilago farfara</i>	Colt's-foot
<i>Hieracium sp.</i>	Hawkweed	<i>Urtica dioica</i>	Stinging Nettle
<i>Hyacinthoides non-scriptus</i>	Bluebell	<i>Veronica arvensis</i>	Wall Speedwell
<i>Hypochoeris radicata</i>	Cat's-ear	<i>Veronica chamaedrys</i>	Germander Speedwell
<i>Lamium purpureum</i>	Red Dead-nettle	<i>Veronica serpyllifolia</i>	Thyme-leaved Speedwell
<i>Lotus corniculatus</i>	Common Bird's-foot-trefoil	<i>Veronica montana</i>	Wood Speedwell
<i>Mercurialis perennis</i>	Dog's Mercury	<i>Vicia sepium</i>	Bush Vetch
<i>Moehringia trinervia</i>	Three-veined Sandwort	<i>Viola odorata</i>	Sweet Violet

The man, the place and the species: Reflections on George Hodge (1833-1871) of Seaham Harbour and his pioneering work on marine mites and other marine invertebrates*

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"The study of the Acari or Mites may be commended to any one fairly familiar with the microscope and anxious to get off the beaten track. Whoever ventures upon the enterprise will soon find himself leaving familiar land-marks far behind, and compelled like every pioneer to trust largely to his own resources" (Hull, 1915).

Around the middle of the 19th century several outstanding workers made the north-east of England an important region for the study of natural history and some of them made marine biology their special field of interest. George Johnston (1797-1855), a surgeon naturalist based in Berwick, was "a real inspiration and catalyst to the region's naturalists ... and the team of Alder and Hancock is synonymous with local marine biology" (Davis, 1983). Both Joshua Alder (1792-1867) and Albany Hancock (1806-1873) were born in Newcastle-upon-Tyne and worked closely together, especially on molluscs, leading to their widely known Ray Society *Monograph of the British Nudibrachiate Mollusca*, published over the



Figure 1. George Hodge - from the Brady Photograph Album held at Newcastle City Library; published with the permission of the library.

period 1845 to 1855. They were both original members of the Natural History Society of Northumberland, Durham and Newcastle-upon-Tyne and also very active in the Tyneside Naturalists' Field Club. In addition, George Stewardson Brady (1832-1921) and Alfred Merle Norman (1831-1918), who are referred to below, formed an outstanding group of Tyneside and Durham workers who influenced many others, including George Hodge. Together their names are on the outer cover of most of the volumes of the former Northern Naturalists' journal *The Vasculum*, and Hodge is there too, but he is "little known beyond the naturalist circles of the north" (*Nature*, 4: 387-388, 14 Sept 1871. Obituary of Mr. George Hodge). Although Hodge cannot be regarded as a scientific equal to such 'greats' as Alder, Hancock, Johnston and the like, he was nevertheless a very active and highly respected naturalist who, had he lived longer, might have become more widely known and eminent. At least the naturalists from the region rated him highly enough to include him on their cover list.

George Hodge (Figure 1) was born in Newcastle in 1833 but moved to Seaham Harbour to become a colliery office clerk as mines were being opened in and around the town as the coal industry developed in the mid 19th century. Described as a man of "retiring and unassuming disposition" (Atkinson, 1872), George and his wife, Charlotte Selina, who was from Scotland, lived with Charlotte's mother at 13 Vane Terrace. In 1861 he was 27 years of age and his career was developing successfully. Ten years later in 1871, the year he died, he was described as an accountant and his address is given as Sea View Villas, Seaham Harbour. By then he had 5 children, four girls and a boy, and an indication of his success is

that he had a nurse and servant living in the house at this time (Information provided by David Angus, from the Seaham-based local history project). Although he spent some time working and living in Newcastle in the 1860s, he returned to Seaham in 1869.

Hodge named one of his new mite species as *Rhombognathides seahami*. Seaham, or Seaham Harbour as it was then known, lies six miles south of Sunderland and thirteen miles east of Durham City in the north-east of England. It developed because of coal and the need for a cheaper and easier way to move coal from the Durham coalfields to London and beyond. The harbour was begun in 1828 with the laying of a foundation stone and was completed during the next three years. Ships carrying a cargo of coal were a familiar sight and the industrial expansion which followed led to the sinking of the first pit at Seaham in 1852. The three local pits were known as Seaham, Vane Tempest and Dawdon. Charles William Vane Stewart (1778-1854), the 3rd Marquess of Londonderry and Lord Lieutenant of County Durham, was the founder of Seaham Harbour and financed its development. A statue of him stands in the Market Place, Durham City. The Vane Tempest pit was named after his wife. Coal brought employment to many people at Seaham and shipping it out required a harbour which gave it the name. Seaham is quite a different place to-day and recently it has undergone major alterations and modernization. Seaham is now a rapidly changing and developing town.

A local naturalist, who never worked very far from his home at Seaham, Hodge was a keen shore collector and "a most enthusiastic dredger" (Atkinson, 1872) and "if he could get a boat to sea on a fine day...he was perfectly happy" (*Nature*, 4: 387-388, 14 Sept 1871. Obituary Mr. George Hodge). Hodge became a respected member of the early dredging expeditions off the Northumberland and Durham coasts and his research centred on this work, although he did a considerable amount of shore collecting as well. The naturalists involved were members of the Natural History Society and the Tyneside Naturalists' Field Club who dredged with financial support from the British Association for the Advancement of Science, which had set up a permanent dredging committee and allocated money to support this work. As Allen (1978) has pointed out, dredging was very different from shore collecting and "Unlike working on the shore, deep-sea dredging was no casual solitary endeavour; it was a collective enterprise, not to be embarked upon lightly, demanded careful planning, a lot of team work and a considerable expenditure of money".

Hodge's closest dredging associates and friends were G. S. Brady and the Reverend A. M. Norman. George Stewardson Brady F.R.S (1832-1921) was a naturalist and surgeon who practised in Sunderland for a time before becoming Professor of Natural History at the University of Durham, College of Physical Science, Newcastle-upon-Tyne from 1875 to 1906, as well as Secretary and later President of the Tyneside Naturalists' Field Club. His specialist interest was in marine and freshwater Crustacea. Alfred Merle Norman F.R.S. (1831-1918) was a minister of the Anglican church, Canon of Durham Cathedral, a Fellow of the Royal Society and one of the foremost marine zoologists of his day. A keen dredger and a specialist on the Pycnogonida or sea spiders (see Mills, 1980) and other marine groups, he inspired Hodge to take up marine work and dredging. Hodge was never happier than at this time, dredging off the coast north of Seaham, and had written "Living as I have done for several years on the coast of Durham, my opportunities for dredging and shore hunting there have been all that could be desired" (*Natural History Transactions of Northumberland and Durham* 1872. 4:120).

In 1863 Hodge prepared what would now be called a grant application for dredging off Holy Island. It is not clear whether or not this particular application was successful but the British Association for the Advancement of Science did support such work for several years. He sent a copy of his letter to G. S. Brady for comment, asking also to hear of Alder's opinion. In it Hodge discussed why Holy Island "should be a good dredging locality", the depths at which they planned to dredge, the loan of a steam tug, equipment, bottles, preservatives, the "appropriation of specimens" as well as a breakdown of costs which amounted to £15. Hodge was to be responsible for the Pycnogonids and some of the Echinodermata, with Alder, Norman, Mennell and the Brady brothers responsible for other marine groups. A note was added that "Newcastle Museum has a claim upon specimens, and that altho' certain branches are appropriate to certain persons, a fair and agreeable distribution according to the requirements of those concerned is to be managed" (Extract from, "Mr. Hodge's letter, Plan for dredging – 1863", held in the Albany Hancock (1806-1873) correspondence at the archives of the Natural History Society of Northumbria, the Great North Museum Hancock, Newcastle-upon-Tyne).

Hodge was involved with the two main natural history societies of the area as well as with his local club. He was a member of the Tyneside Naturalists' Field Club from 1857, a committee member between 1866 and 1869 and, at the time of his death, Vice President of the club. By 1862 Seaham Harbour had two other residents listed as members of the Tyneside Naturalists' Field Club – Rev. Angus Bethune and Alex Crosby Logan. Hodge also became honorary curator of the "Articulata and Radiata" for the Natural History Society of Northumberland and Durham from 1866 to 1869, and acted as a committee member and junior secretary for a short period. He was a founder of his local Natural History Club at Seaham and "to his influence chiefly may be ascribed the establishment of the very useful and flourishing Natural History Club of Seaham Harbour, in whose proceedings he always took great interest" (*Sunderland Times*, 19 September 1871 p.2). Durham County Record Office holds some of the minutes of the Club (Ref No. D/X 1065/4 under miscellaneous documents: Seaham Natural History Club, field and evening meetings minute book, 20 May 1861 - 4 March 1880) when a preliminary meeting for the formation of the club was held on 19 March 1861.

The serious and scientific side of marine zoology, particular with respect to the minute, was enhanced by the increasing use of the compound microscope and other related developments such as photomicrography around the middle of the 19th century. As Allen (1978) has expressed it, this had the effect of, "bringing before people's vision an unsuspected realm of delicate forms and brilliant colourings...and held their beholders enthralled". Hodge was a member of the Microscopical Society of Newcastle and prepared a book, "Notes on the marine zoology of Seaham Harbour for members of the Microscopical Society of Newcastle", signed by George Hodge and dated 22 March 1860 (Newcastle City Library L591.92), which consists of 21 hand written pages with 12 photomicrographs and 6 original drawings, bound as a hard back. Strangely, however, some of the photomicrographs are not what we associate with marine organisms and include lice, midges and a pseudoscorpion! The book, written to enable members to extend their knowledge of life on the sea shore, is based on Hodge's own marine microscopical work. He wrote it in the evenings - "it is always possible for some little time to be filched during the leisure of an evening for such pursuits". His 'beat' was from Ryhope Dene to Hawthorn, a distance of about six miles, with Seaham being about half way between the two. The book includes records of him collecting and hunting in rock pools at Blackhall rocks near Castle Eden in 1857. In it he wrote that "to hunt profitably you must know the ground and the habits of the animals sought" and this only comes from "constant practice". He kept an aquarium at home

and used camera lucida drawings to illustrate the book, urging members always to have a notebook and pencil to hand when “the microscope is in use”. He encouraged members to take up the study of marine biology and “fill up the many gaps which are too evident”. A compound microscope is almost essential for the study of mites and other minute marine organisms and Hodge’s contribution in part lay in his efficient and enthusiastic use of this instrument with its attendant camera lucida.

Hodge’s scientific collections give some indication of his importance. They were acquired by The Natural History Society of Northumberland in the 1860s and are currently held in the Great North Museum Hancock in Newcastle. They consist of 1500 microscope slides of marine and other organisms, from Northumberland and Durham, and amongst these are slides of halacarid mites mounted and described by Hodge and collected from the Durham coast. There are also dried specimens of Echinoderms and other marine invertebrates from Northumberland and Durham amounting to roughly 500 specimens, and both these and the slides were collected between 1860 and 1866 and donated in that year (Davis and Brewer, 1986). His marine invertebrate collections were referred to by Atkinson (1872) when, in his obituary to Hodge, he reported “I am happy to be able to announce that the Natural History Society secured his valuable collections”.

Hodge was also an accomplished artist and made “careful observations and exquisite drawings of the lower animal forms” (Obituary notice *Nature*, 4: 387-388, 14 Sept 1871), examples of which can be seen in his papers. There are original drawings of his in the Natural History Museum, London, which consist of nine pencil and watercolours of Crustacea made between 1860 and 1870 (Natural History Museum, Zoology library - pers. comm. Daisy Cunynghame to author, 25 January 2011). Some of his drawings of marine organisms are contained in Hodge’s microscopical book described above and include *Alcyonium digitatum* (= *digitata*), *Onchidoris* (= *Doris*) *bilamellata*, *Chilodonella* (= *Chilodon*) *cucullulus* and *Coryne pusilla*.

Tragically, he died from cholera on September 17, 1871, aged 38. There had been several outbreaks of this water-borne disease in the 19th century and one in Newcastle in 1853 killed 1500 people. George Hodge was described as a “genial, unassuming, ever-friendly colleague” and it was reported that “science has lost a loving devotee” (*Natural History Transactions of Northumberland and Durham and the Tyneside Naturalists Field Club* 1871-1872, 4: 540-541).

Other work on marine mites in Britain

The term ‘marine mites’ can be confusing as it is sometimes used in a general sense but also has a more restricted meaning. The true marine mites are members of the Halacaridae (Arachnida: Acari), although members of other families may be found in the marine intertidal zone. Equally there is a small number of Halacarids that occur in fresh and brackish water. The Halacaridae are therefore primarily marine mites which live both intertidally and down to great depths in the oceans. Although many of them are phytophagous and are associated with marine algae, a significant number are predators and a few are thought to be parasites. Sperm transfer is via spermatophores; eggs are laid and the larvae, like those of other Arachnids, have six legs, and are followed by one to three nymphal stages before reaching the adult stage. The life span is about 5 to 9 months. All of them are benthic animals, crawlers rather than swimmers; most are less than 1mm in length and belong to the meiofauna, and over 1000 species have been described. An overall geographical and ecological survey of the group is given by Bartsch (1989). Green (1960) provides a check-list of British species and Green and Macquitty (1987) a general biology, as well as keys, notes

and records for the British species. Bartsch (1985) studied the Halacarids of the Yorkshire coast (an adjacent coastline, south of County Durham) in sediment samples from low tide to 56m and found 19 halacarids, 14 new to Yorkshire and 2 new to science. The species which had previously been recorded from the Yorkshire coast were mainly from intertidal and subtidal algae.

Much of the early work on halacarids in Britain was carried out in the north-east of England. George Johnston (Davis, 1995) began the study when he described *Acarus basteri* (Johnston, 1836). Elsewhere in Britain, Philip Henry Gosse (1855) described and named *Halacarus rhodostigma*, *H. ctenopus* and *Pachygnathus notops* from Weymouth and Ilfracombe, collected intertidally amongst seaweeds. When Hodge reported on further work on marine mites (Hodge, 1863a), he believed that the previously recorded British species were five in number, one from the nostril of a seal by Allman, (an endoparasitic mesostigmatid mite), the three by Gosse (1855) and his own *P. seahami* (Hodge, 1860), and appeared to be unaware of Johnston's earlier paper. Brady (1875) dredged off the Durham and Yorkshire coasts as well as examining the Hodge type-specimens in Newcastle.

The marine mite - *Rhombognathides seahami* (Hodge, 1860)

This species, collected by Hodge from tufts of the alga *Corallina officinalis* growing on rocks at Seaham harbour and referred to at the time as an "insect", was first named and described by Hodge (1860). In his original description it was referred to as *Pachygnathus seahami*. This short paper includes three small figures, a whole mount, the mouthparts and the apex of a leg showing the combs ("pectinate") on the claws (Plate II). He wrote, "very common on the stems of *Corallina* and other littoral algae". Hodge made tracings using a camera lucida and, together with specimens, these were sent to Philip Gosse, who replied, "it agreed with his *P. notops*, except in the form of the claws, which is very peculiar, and must, I presume, constitute.....a new species" (letter from Gosse quoted by Hodge, 1860).

At least two people have made a detailed study of Hodge's slides of halacarid mites. In 1874 Brady wrote to the Natural History Society to ask if he might examine them and, almost a century after Hodge had prepared them, H. C. Fountain used them for his work (Fountain, 1953). Harold Charles Fountain (1886-1958) was a teacher by profession and an amateur microscopist and acarologist who worked on both freshwater and marine mites. He had problems with some of Hodge's slides, which at the time were on loan to him, as the following letter to a friend and fellow microscopist indicates: "I am certainly finding this difficulty with Hodge's old Halacarid slides. These, which were made with Canada Balsam circa 1860, are exceedingly difficult to make up one's mind about, and I do not trust my technical skill sufficiently to dare to embark on remounting and dissections. I have one, which has been soaking in cellosolve for 2 years now, and I can make very detailed drawings from it" (H. C. Fountain to R. Darby 20 February 1952, letter held by Mike Smith, Leeds). Fountain examined the slides of *R. seahami* and in his paper wrote "There are six specimens on the slide", three adults and three deutonymphs. The "mountant is perfectly clear" but the specimens "are opaque for the most part". The slide is labelled 'Type', 'Rocks 1861' but this raises a doubt since Hodge published his original description in 1860. There is an additional slide with one "very damaged specimen" of the same species, with "Deep water 1860" etched on the slide (Fountain, *ibid*). The basis of the record is Bartsch (2001, 2009) with sources and further references being listed at the *World Register of Marine Species* (<http://www.marinespecies.org/aphia.php?p=taxdetails&id=115012>).

Rhombognathides seahami is a widely distributed species in the British Isles, the east coast of North America, the Arctic Sea, Iceland, Greenland, Russia, Baltic Sea, North Sea and

France. It is one of many halacarid mites found associated with brown, green and red seaweeds and laminarian holdfasts and has also been recorded in the interstitial areas between individual intertidal Edible Mussels *Mytilus edulis* and Acorn Barnacles *Semibalanus balanoides* (Baker, 1982). It is also known from the sublittoral and from brackish water. Abé (2001) has indicated that *R. nigrescens*, described by Brady (1877) from Crag Lake, an upland freshwater lake in Northumberland, is not morphologically distinguishable and should be considered synonymous with *R. seahami*. There is considerable doubt about the provenance of most of the species described by Brady from this lake as being from freshwater, and he admits this in his statement, "I am not able to say with certainty that they really *lived* in the water whence they were taken" (Brady, 1877).

Other halacarid mites first described by Hodge from Seaham

Hodge was the first to describe and name four other species (Hodge, 1863a) and Fountain (*ibid*) reported on these also and made drawings. They are from Seaham or the coast nearby and some are from the sublittoral. There are eight slides in total, including the two of *R. seahami* already referred to, and their condition generally was described as "perfectly clear and colourless to absolutely opaque" (Fountain, *ibid*). According to Fountain (*ibid*) they were mounted in either Canada Balsam or Dean's medium and there had been some errors in identification.

Hodge (1863a) described the four species (Plate II), "which I take to be new", as *Halacarus granulatus*, from the "washings of zoophytes" found at 15-25 fathoms, a single individual of *H. oculatus* from 15-25 fathoms, *Pachygnathus minutus* "on the stems of *Coryne eximia* between tides" and *Leptognathus falcatus* "in the washings of zoophytes" collected in March 1861 from 20-30 fathoms. Names have changed as follows:

Halacarus granulatus Hodge, 1863 now *Copidognathus granulatus* (Hodge, 1863)

Halacarus oculatus Hodge, 1863 now *Copidognathus oculatus* (Hodge, 1863) *sensu* Lohmann, 1889

Pachygnathus minutus Hodge, 1863 now *Simognathus minutus* (Hodge, 1863)

Leptognathus falcatus Hodge, 1863 now *Lohmannella falcata* (Hodge, 1863).

However, both Brady (1875) and Fountain (1953) agreed that the slide labelled *Pachygnathus minutus* was a larval form of *Pachygnathus sculptus*, now *S. minutus* (Hodge), a new species described by Brady. According to Brady, the slide labelled *Halacarus oculatus*, from deeper water off Seaham, had been a mis-identification by Hodge and he believed that both *H. granulatus* and *H. oculatus* were the same species, referable to *H. rhodostigma*. Brady (1875) wrote "It is with no little regret that I feel quite unable to draw any specific distinction between the forms described by my old friend Mr Hodge (*H. granulatus* and *H. oculatus*) and the previous species *H. rhodostigma* Gosse". Fountain (1953) believed that Brady was right with regard to *H. oculatus* but disagreed about *H. granulatus*. Clearly, as Green and Macquitty (1987) stated, "There has been some doubt concerning the identification of *C. oculatus*".

Hodge's work on other marine organisms

Hodge was also interested in other marine groups and published a series of papers on echinoderms (Hodge, 1864b, 1872) and pycnogonids (Hodge, 1863b, 1864a, 1864c) which appear in the *Transactions of the Tyneside Naturalists' Field Club* and the *Natural History Transactions of Northumberland and Durham* and some are listed here, although no attempt has been made to list them all. Some of his papers are referred to as dredging reports and several mention work at Seaham with the name of the town in the title of the paper.

Conclusion

George Hodge was an important 19th century marine biologist in the north-east of England working on some of the smaller, neglected groups of microscopical animals as well as on echinoderms and pycnogonids. In particular, he made a wider and lasting contribution in his pioneering work on marine mites (Halacaridae).

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Letter to the Editors:

I am writing to you to say how much I like the new format of the YNU Journal and thank you for the 2010/11 Annual Report. The YNU obviously goes from strength to strength as reflected in the enthusiastic support of the membership. I must be one of your long-standing members joining in 1948 when a student in the Honours School of Botany at Durham University. Over the years I have attended forays – the first at Cottingham led by John Webster – a friend to this day – who set me on a life-long love of fungi. I have attended one or two Annual Conferences when held in my home town of Harrogate. To date I have had four papers published in *The Naturalist* and at present I am preparing a paper on the Pinaceae in SE Scotland (based on air borne pollen trapped in my Volumetric Spore Sampler in my garden at Vogrie), which I hope will be accepted as my 5th contribution. For twenty-five years I have been doing the daily Pollen Count for SE Scotland which features on TV and in the press. In 2012 I will be giving up the daily pollen count, as a youth of 86 years, I feel there is more writing to be undertaken.

Eric Caulton North Vogrie Lodge, Dewarton by Gorebridge EH23 4NU



Plate I Red Squirrel *Sciurus vulgaris* in typical habitat (see p163). Yorkshire Dales National Park Authority © David Weedon

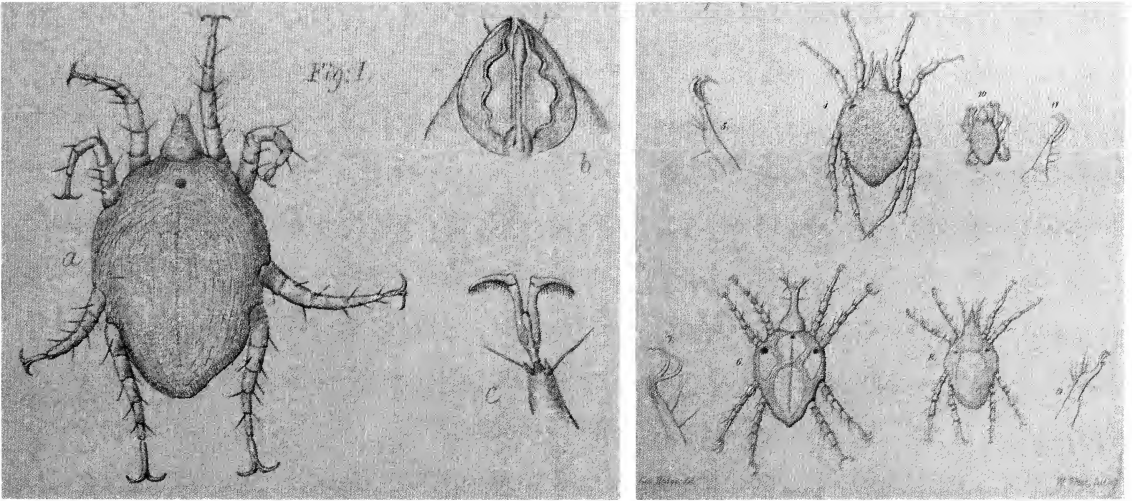


Plate II Marine mites (see p177).
 Left: From Hodge (1860) showing *Pachygnathus seahami*, now *Rhombognathides seahami* (Hodge, 1860) – dorsal view, mouthparts, and tip of a leg showing claws, the lateral claws with combs, referred to as “pectinated” by Hodge.
 Right: From Hodge (1863a) showing numbers: 4 *Halacarus granulatus*, 6 *Leptognathus falcatus*, 8 *Halacarus oculatus* and 10 *Pachygnathus minutus* (names given by Hodge in this paper).



Plate III (see p170) Harewood church and graveyard showing unmown grass and wildflowers

P.Abbott



Plate IV Marsh area of the Rodley dragonfly conservation project (see p 196).

Left: General view. Right: Cotton Grass *Eriophorum angustifolium* well established.

P.Mill

Red Grouse *Lagopus lagopus scotica* on the peripheral moors of the Peak District*

D.W. Yalden (Honorary Reader in Vertebrate Zoology, School of Life Sciences, University of Manchester). High View, Tom Lane, Chapel-en-le-Frith, High Peak SK23 9UN.

Introduction

There have been three surveys of the distribution and status of Red Grouse *Lagopus lagopus scotica* on the moors of the Peak District. Yalden (1972, 1979) tried to map the whole distribution at the 1km square (monad) level and used his counts to estimate the total population at around 10,000 pairs in 487 squares. In 1990, a full survey of moorland birds in the Southern Pennines (Brown & Shepherd, 1991) recorded 2337 Red Grouse in 483 monads. A new survey of moorland birds in 2004, commissioned by the Moors for the Future project, found 5598 grouse in 432 monads (Carr & Middleton, 2004), 5416 of them in monads also covered by the 1990 survey. Clearly, Grouse numbers had increased, perhaps doubled, on the main moorlands of the Peak District over the 14 year interval.

However, both the more recent surveys omitted smaller fragments of peripheral moorland covered by Yalden (1972) and it might be suspected that any losses of moorland and their Grouse would be most evident on such fragments. Consequently, Yalden (1994) carried out a survey of 112 peripheral monads in 1993-94 (106 of them also covered in 1969-1972). Fewer of these monads still had Grouse, and in those where Grouse were present, their numbers and densities were lower than the same squares 22 years earlier and from the main moors in 1993-94. The positions of the monads surveyed can be seen in Figure 1.

There were, however, a few monads where numbers had increased as a result of positive management of their moorlands. Hence, reversal of declines is perhaps as possible as further declines, prompting a resurvey of these peripheral monads in 2008-2010. Have these peripheral moorlands lost further Grouse or have numbers and distribution recovered?

Methods

All 112 monads which were covered in the winter 1993-94 survey were visited again over the winters of 2008-2010. Earlier in the autumn, before they start to settle in territories, numbers are inflated by the recent breeding season and disturbed by shooting; later, from April onwards, they become more secretive and harder to count as they settle down to breeding. Winter counts, so long as the moors are not snow-covered, usually have Grouse which are holding their territories and are readily counted. The period of heavy snow cover from January to March 2010 was avoided. Grouse were counted and traces (droppings, feathers) were noted when no Grouse were seen. A rough assessment of the extent of Heather *Calluna vulgaris* moorland was made and its management status (overgrazed, unmanaged, managed by burning or cutting) noted. Where areas of moorland were large enough (needing at least 30 minutes), time spent counting was also recorded, and the counts expressed as Grouse/hour as well as Grouse/km².

Results

2008-2010 survey. Grouse were found in only 57 of the monads, with traces in a further three. There were no Grouse recorded in 52 squares. Overall, density was 2.59 Grouse per monad, but 5.1 Grouse per monad in the 57 monads where they occurred. Numbers ranged from 0-15 Grouse/km² and, for 57 monads where timed counts were feasible, the median was 3/hr (range 0-19.2/hr). A small, possibly unrepresentative, sample of 12 counts from the

main moors in this period suggested 10.6 Grouse/hr (range 0.4-27/hr) so, although the best of the peripheral moors could produce similar counts to the main moors, it appears that the latter had, in general, about three times as many Grouse per monad or per hour.

Comparisons with earlier surveys. There was a substantial decline in distribution and abundance in the peripheral monads between 1972 and 1994 (Table 1; Yalden, 1994). However, there was no significant further decline between 1994 and 2010. Total and mean numbers of Grouse were slightly higher but the number of empty monads was also higher, so the most recent counts are more variable (i.e. higher standard deviation and wider confidence level). Whereas both later counts differ significantly from the first survey ($t = 5.14$ and 4.54 , $p < 0.001$ in both cases), they do not differ from each other ($t = 1.19$, $p = 0.23$).

Table 1. Numbers of Red Grouse seen in peripheral squares of moorland in the Peak District over 3 surveys. The figures differ slightly from those given in Yalden (1994), because they refer to the full sample of 112 squares for the two later surveys.

Number of grouse seen	1969-71	1993-94	2008-10
0	10	41	52
Traces	6	7	3
1-4	44	51	32
5-9	20	9	15
10-19	19	4	10
20+	7	0	0
Total squares	106	112	112
Total Grouse	752	236	291
Mean grouse/km ²	7.09	2.05	2.59
S.D.	10.99	2.91	3.81
95% CL	5.00-9.18	1.51-2.59	1.88-3.30
Median Grouse/hr		3.2	3.0

Similarly, while the proportion of zero/trace counts to positive counts is very different from the first survey ($\chi^2 = 28.7$, $p < 0.001$), the two more recent surveys do not differ ($\chi^2 = 0.88$, $p = 0.65$). Ignoring the 35 squares where the counts were equal in the two recent surveys (in 25 of the cases the counts were both zero), there were 39 monads with more Grouse counted in 2008-10 than in 1993-94, and 38 where fewer were counted. One might expect both increases and decreases just by chance, and this even change might suggest just such chance effects. However, on the ground, this would be to misinterpret the evidence.

Two areas in particular showed strong increases in the numbers of Grouse counted. One cluster was on the south-western moors around the Cheshire/Derbyshire border. In 9 monads here, Grouse counts increased from 4 in 1993-94 to 50 in 2008-10. Management of the grouse moors for shooting purposes had been intensified here, with fewer sheep and better burning in small patches. A similar pattern was found on the Moscar/Bamford Edge area, where strenuous efforts have been made to restore Heather cover, reduce overgrazing by sheep and institute Heather burning. Hereabouts, 9 monads showed an increase from 28 to 46 Grouse counted.

Decreases are less clustered. The Staffordshire moors are now poorly stocked, but the counts here are variable, some modest increases matching some modest declines. Gradbach Hill, for instance, which had only 5 Red Grouse in 1993-94, had 8 in 2008-10; moreover, these were 4 pairs, each associated with a recent patch where the long over-age

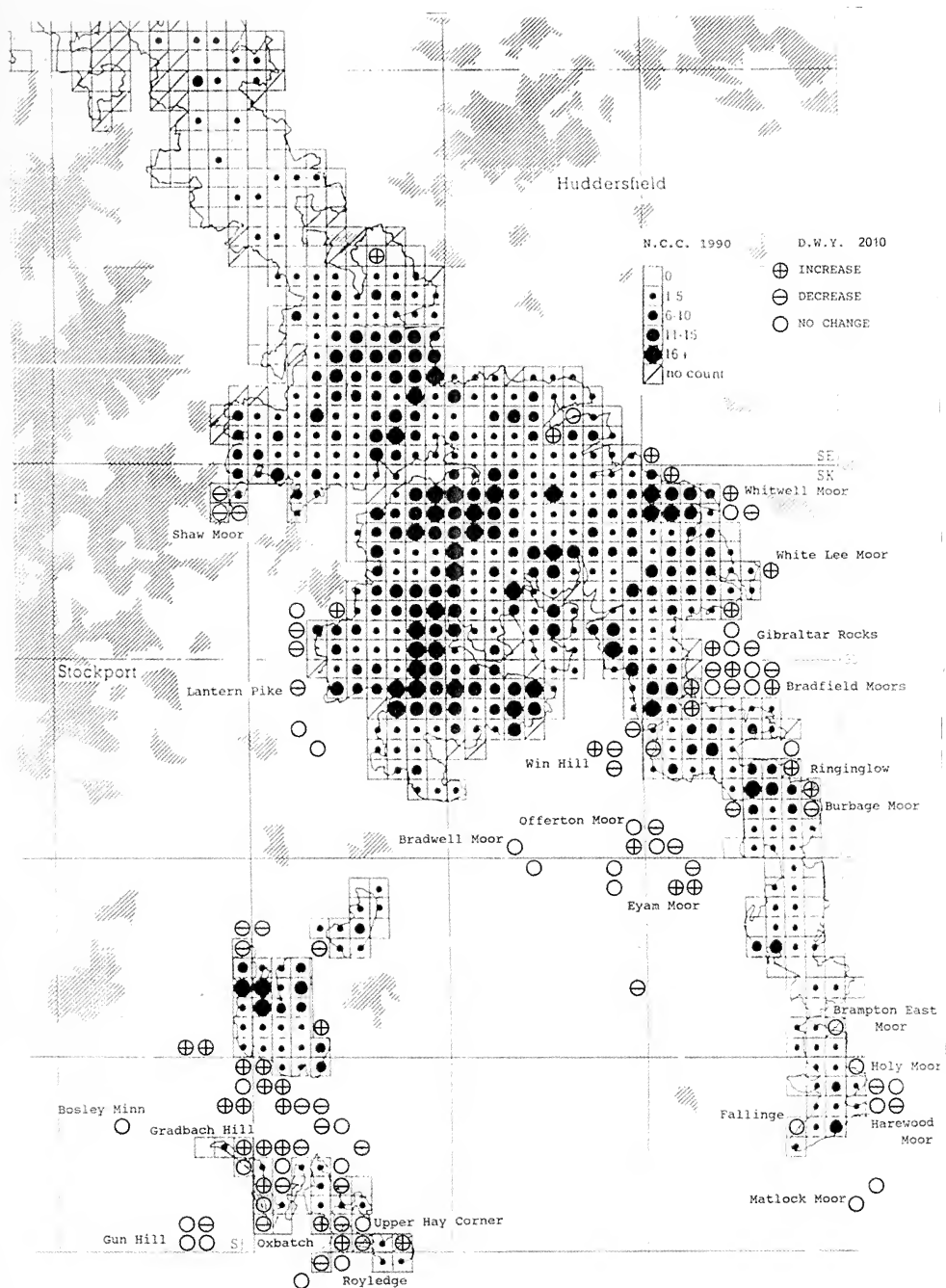


Figure 1. The distribution of Red Grouse in the Peak District by monad, based on Fig. 9 of Brown & Shepherd (1991), with their permission. The solid circles record their survey results (N.C.C = Nature Conservancy Council 1990 survey), open circles in peripheral squares the results of the present survey (D.W.Y. = D.W. Yalden 2010 survey).

heather had been cut to create small patches of short, open moorland, suitable for chicks to forage and for the regrowth of young Heather. Conversely, on Gun Hill, Badger's Croft, Oxhay, Lum Edge and Upper Hay Corner, moors now have too much long, unmanaged Heather and have lost their Grouse. They could easily recover them - similar habitat on Revidge was burnt recently by an accidental fire, and its Grouse count increased from 2 to 7.

Two losses merit particular mention. None of the remnants of limestone heath (Berrystall Lodge, Bradwell Moor, Longstone Moor) now seems to have a Red Grouse population; where there were 29 Grouse in 3 such monads in 1969-72, and 6 in 1993-94, there are now none. In the extreme south-east of the moorlands, where there were 34 grouse in 10 peripheral squares in 1969-72, from Brampton East to Matlock Moor, there were only 19 in 1993-94 and now none. While these are numerically trivial changes, both these losses represent significant losses to the nature of the Peak District and its moorlands.

Discussion

It is encouraging that the decline of Red Grouse around the periphery of the main moorlands has not continued further since the 1993-94 survey. Given that Grouse numbers generally in the Peak District have increased (Carr & Middleton, 2004), the modest (statistically insignificant) increase in numbers was expected. More encouraging is the evidence of important increases in areas where positive management of the Heather moors has taken place, deliberately for the betterment of Grouse shooting but incidentally assisting other moorland birds too. This implies that modest attention to other areas of recent loss, such as from the limestone heaths and the south-east moors, could also reverse the loss of this iconic moorland bird.

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On the first occurrence of the Pilot Fish in the central North Sea, in association with a Leatherback Turtle

D. E. Whittaker, Scarborough

Introduction

This paper places on record the recent simultaneous occurrence of both Leatherback Turtle *Dermochelys coriacea* (L) and Pilot Fish *Naucrates ductor* (L) in a fishing net set to catch Bass *Dicentrarchus labrax* (L), on the beach at Mappleton, East Yorkshire, by Mr Harvey Holbrook, who services the nets by means of a quad-bike driven along this extensive sweep of the Holderness beach.

The Leatherback Turtle, although increasingly met with on the western seaboard of the British Isles and Ireland, is a rare visitor to the North Sea, with most occurrences in this sea area occurring in ICES (International Council for the Exploration of the Sea) division IVa, around the Scottish area. South of this, records of *Dermochelys* in division IVb are exceptionally rare, and there is only a single definite occurrence for this species on the Yorkshire coast, of a specimen measured at 8 feet in length and with an estimated weight of 1000 lbs, found entangled in herring drift nets in Bridlington Bay on October 25 1871 (Bell, 1872).

The Pilot Fish, *Naucrates ductor* (L), Pisces; Carangidae, an oceanic fish found in association with sharks, pelagic rays and turtles, is also rare in British waters (Wheeler, 1969), and like *Dermochelys*, is more likely to occur in the south-west and western seaboard up to ICES sea area IVa. Nevertheless, all British occurrences of this species are noteworthy. Although Smith-Vaniz (1986) indicates in his distribution map that the potential of occurrence is throughout the North Sea, there are no previous records of this fish from the Central North Sea, division IVb, and this is therefore a remarkable record for the Yorkshire coast, especially given its association with the accidental capture of a *Dermochelys*.

Leatherback Turtle *Dermochelys coriacea*

A large Leatherback Turtle was discovered alive by fisherman Mr Harvey Holbrook at about 4am on November 1 2010, when visiting his beach nets at low water. The turtle was caught in the nets at a point quite high up the beach, and had a carapace estimated at 4-6 feet in length. With the animal illuminated by the lights of the quad-bike, Mr Holbrook recorded his capture by means of his cell-phone camera.

After cutting it free, Mr Holbrook passed a rope around its flippers and towed it down the beach by means of his quad-bike, but the turtle refused to take to the water and headed back up the beach. A second attempt was no more successful in getting the turtle to the water, and with the tide about to turn anyway, further attempts were abandoned.

At the succeeding high tide, peaking about noon that day, most of the beach on this stretch of the coast was flooded up to the foot of the cliffs, and the turtle would appear to have returned to sea at some point during the morning flood; the author is unaware of any further reports of this animal.

Pilot Fish *Naucrates ductor*

During subsequent retrieval of the fish catch from the net, two specimens of this fish, having stranded near the entangled turtle, were discovered, and were subsequently donated by Mr

Holbrook for examination. The larger of these was partially filleted by Mr Holbrook, but the frame of the fish, with viscera intact and *in situ*, was still suitable for data extraction, the standard length being 296 mm, the total length 380 mm. The second, perfect fish had a standard length of 268 mm, and a total length of 345mm; the weight was 478 gm. The buccal cavities and gills were examined for crustacean and monogenean parasites, the gastrointestinal tracts for other platyhelminth parasites. Both fish were male and appeared to be in good condition, with low parasitic infection, but neither fish had been feeding before capture.

All the material has been preserved in the marine reference collections held at Scarborough.

Discussion

While the occurrence of *Dermochelys* and *Naucrates* in this sea area may be attributable to little more than random and chance deviation into the North Sea, there is also the possibility that hydrographic components may be a factor of their entry into the North Sea and penetration as far south as the Yorkshire coast, since their occurrence fell during other significant events taking place off the coast.

The summer of 2010 was notable for the largest number of a small tuna, the Pelamid or Bonito, *Sarda sarda* to be recorded from the Yorkshire area, and a solitary example caught surprisingly late in December 2010, off Lowestoft, revealed that some at least were still within the North Sea late in the year when sea temperatures are falling rapidly. The autumn of 2010 saw large numbers of Ray's Bream, *Brama brama*, invade the North Sea for the sixth successive year, in a repetition of the years of heavy influx extending from 1967 to 1982 (Whittaker, unpublished), the causal factors of which are not understood (Wheeler & Blacker, 1975)

During 2011 another large invasion of the North Sea by *Sarda sarda* occurred, with the first fish being caught between Filey and Amble in late May, when sea temperatures are still relatively depressed, and at which early date *Sarda* has not previously been recorded in the central North Sea. The occurrence of this tuna in the North Sea during 2011 is determined to be of the greatest magnitude so far recorded there.

The appearance of the *Dermochelys* and its accompanying *Naucrates* therefore occurred during the major incursions of at least two other oceanic and pelagic taxa, *Brama brama* and *Sarda sarda*.

The author is indebted to Mr Harvey Holbrook for his account of his captures, and for saving and donating the specimens of *Naucrates* for examination and permanent preservation.

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Hybrid seaweeds on Merseyside

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Introduction

Bladder Wrack *Fucus vesiculosus* is among the most familiar of British seaweeds. It is also one of the most variable with numerous ecotypes adapted to a wide range of habitats. The taxonomic difficulties these raise are compounded by the fact that it is also known to hybridise with other species of *Fucus*, most frequently with Spiral Wrack *F. spiralis*. The existence of these hybrids has been documented since the early years of the 20th century and from many European shores (Billard *et al*, 2005) including, rather unexpectedly, Merseyside.

Burrows and Lodge (1951) described the *Fucus* vegetation on the shore at New Brighton (Grid ref. SJ 312 945), which lies on the Wirral bank of the River Mersey where it opens out into the Irish Sea. About 28% of the *Fucus* at the uppermost of their four sampling levels was identified as *F. spiralis* and, at the lowest level about 12% was thought to be *F. vesiculosus*. All the remaining plants were intermediate in character and concluded to be hybrid. The New Brighton shore has changed enormously since 1951, chiefly through the construction of defensive reefs in the 1980s. The purpose of these was to halt and reverse the loss of sand from the beach and in this they have proved to be highly successful, so much so that most of the natural sandstone sampled by Burrows and Lodge is now submerged. The defences consist of interlocking concrete units mounted on foundations of large limestone boulders (Plate V, opposite p200) which were quickly vegetated by *Fucus* and other algae. They therefore have come to replace the sandstone of earlier times. In the light of these changes, a reappraisal of the New Brighton population seemed timely.

Sampling

Fucus samples were collected from two shore levels only. The upper of these was located at 0.5m below the boundary between the supralittoral and eulittoral zones (a fairly clear line on most rocky shores) and the lower at 3.5m below the boundary. Above – 0.5m and below – 3.5m, the *Fucus* becomes sparse and the plants poorly developed. Both samples were obtained from the limestone boulders.

Altogether, 41 fertile plants were sampled from – 0.5m and 54 from – 3.5m. An additional 18 plants were collected for calculation of reproductive allocations, 8 from the upper shore and 10 from the lower.

Fucus attributes

Plants were assessed using the characters adopted by Burrows and Lodge (1951) as diagnostic of the parent species; i.e., flat leathery thallus with vesicles or air bladders (*F. vesiculosus*); spirally twisted papery thallus without vesicles (*F. spiralis*); rounded receptacles with sterile rims (*F. spiralis*), elongate rimless receptacles (*F. vesiculosus*); hermaphrodite receptacles (*F. spiralis*); dioecious receptacles (*F. vesiculosus*). The plants were also checked for the incidence of bifid receptacles, a common feature of *F. vesiculosus* but rare in *F. spiralis*. The thallus lengths of all plants were measured.

Reproductive Allocation

The Reproductive Allocation (RA) of any plant is the percentage dry weight given over to reproductive tissue. This was obtained by removing all the receptacles from each of the 18

Fucus sampled and air-drying these and the vegetative thallus separately in a dry laboratory atmosphere over a period of five days. The tissues were then weighed and the respective RA values calculated.

Results

– 0.5m shore level

The mean plant length was 14.92cm and the length:width ratio of receptacles was 1.86. Out of the 41 plants, 40 carried a mixture of bifid and entire receptacles, a full complement of entire receptacles being found on the remaining plant. At least 24 had some receptacles with sterile rims and all the receptacles were hermaphrodite. Vesicles were absent from all plants at this level. The mean RA of the 8 plants sampled was 69.3.

– 3.5m shore level

The mean plant length was 21.17cm, significantly longer than those from – 0.5m, and the receptacle length:width ratio was 1.87. Bifid receptacles were present on 53 out of 54 plants. One plant had all bifid receptacles and one all entire. Receptacle rims were present on 14 plants and every plant bore hermaphrodite receptacles. Once again, all plants were evesiculate. The mean RA of the 10 plants from – 3.5m was 56.5.

Discussion

The indeterminate character of the New Brighton hybrids is evident in Fig. 1, as was the case with all the *Fucus* examined from both shore levels. The observation by Burrows and Lodge (*ibid.*) that the uppermost hybrids were more *F. spiralis*-like and the lowermost more *F. vesiculosus*-like is only partially borne out here, however. Those from – 0.5m were shorter than those from – 3.5m. More of their receptacles bore sterile rims (not an easy character to be sure about) and entire receptacles were more common. Such differences, though minor, could be due to the persistence of *F. spiralis* genes or to the effects of different conditions at the two levels or both. In any event, a process of crossing and back crossing does seem to have occurred resulting in a more uniform population than in 1951.



Figure 1. *Fucus spiralis* x *vesiculosus*
herbarium specimen

The remaining and possibly more interesting question is just how these hybrids are so successful at New Brighton. Burrows and Lodge (1951) suggest that hybrids are normally excluded by strong competition from the two parent species and it is only when circumstances result in a more 'open' substrate that hybrids may be expected to survive. They point to the soft friable nature of New Brighton sandstone, which constantly crumbles away exposing new surfaces for colonisation and hence to weakened competition. This insight, though correct, has since been devalued by the arrival of hard rock surfaces in the sea defences. These were completed in 1985, sufficiently long ago for ten or more *Fucus* generations, without any visible reversal of the trend to completion of a hybrid population. So, if competition is indeed weak then some other component(s) of the local environment may be responsible. One possible element in their success could be their conspicuously high

production of reproductive tissues as shown in their RA values. Indeed, at both shore levels, reproductive tissue accounted for more than half of the plant weight. In any event, hybrids still rule at New Brighton.

Conclusions

New Brighton, the original site of a hybrid swarm described by Burrows and Lodge now seems to be populated entirely by these plants. They are evidently more uniform morphologically than in 1951 and plants identifiable as 'pure' parent species could no longer be found. The success of hybrids is not obviously related to the type of rock present, but may have been promoted by their copious reproduction.

Acknowledgements

I am grateful to the World Museum Liverpool for providing laboratory facilities and staff support.

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Book Review

The Darwinian Tourist: Viewing the World through Evolutionary Eyes by Christopher Wills. Pp.345, Oxford University Press, ISBN 978-0-19-958437-3, RRP £18.99.

This book is billed as a "celebration of biodiversity" and seems to have been designed as a kind of scientific travel log. Each chapter starts and finishes with a personal story about visiting a place to introduce the main theme of the chapter. The author's writing style is engaging and he successfully explains complex genetic, evolutionary and ecological concepts without losing too much detail. The text is interspersed with beautiful photographs and is nicely divided into subsections, making it easy to pick up and read for short periods of time. Unfortunately, many of the photographs are not directly referred to in the text and some of them appear to have little relevance to the subject under discussion. The book reads like a personal diary, occasionally slipping into what appears to be a loosely edited stream of consciousness. The main text has numbered notes which refer to a Notes section at the back of the book, containing references and asides to the text. I found this rather frustrating as I kept having to flick to the back of the book for more information, only to find it was simply a reference for a scientific paper. I would have preferred a standalone references section at the back, with footers for the asides. Despite this, it is an interesting and informative introduction to Darwinian evolution, covering a wide range of basic and more advanced concepts from plate tectonics to density-dependent mortality, convergent evolution and speciation. Students of the natural sciences might appreciate it as a birthday present!

SW

Progress towards protection: key sites off the Yorkshire coast recommended as potential Marine Conservation Zones

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In August 2011, protection for important marine and coastal sites came a step closer when stakeholder recommendations for a network of Marine Conservation Zones (MCZs) were sent to the Government's nature conservation advisors. The proposals could create up to 127 MCZs in the seas around England, potentially affording some level of protection to over a quarter of the English seabed. Currently, less than 0.001% of the UK's marine environment is fully protected from damaging activities.

Following the passing of the Marine and Coastal Access Act in 2009, four regional projects were established to enable stakeholders from a wide range of sectors to provide input on where MCZs should be located. The aim of this approach was to use local knowledge to verify the ecological and socio-economic importance of potential sites, in order to create an "ecologically coherent and well managed network of MCZs that will be well understood and supported by sea users".

The Yorkshire coast lies within the area covered by the Net Gain project, which extends from East Anglia to the Scottish border and from estuaries and intertidal areas to deep offshore waters.

From March 2010 to June 2011, Net Gain facilitated six rounds of regional stakeholder meetings, drawing on an estimated 5,500 hours of stakeholder effort. Following ecological network design principles produced by Natural England and the Joint Nature Conservation Committee, stakeholders were tasked with making recommendations on the size, location, boundaries and conservation objectives of proposed sites. Their aim was to protect a target percentage of broad scale habitats as well as habitats and species of conservation importance, and to fulfil criteria of representativeness, replication, adequacy, viability and connectivity.

To support them in this task, stakeholders were provided with a collation of the best available scientific evidence such as hydrographic data, fishing vessel monitoring data, information on geology and geomorphology, benthic habitats and species distributions including seabird foraging areas and fish spawning grounds. Wildlife data provided by volunteer recorders were a crucial source of information during this process. One key dataset which informed the evaluation of inshore sites was provided by the Marine Conservation Society's national recording scheme Seasearch, which provides training and support to enable volunteer SCUBA divers to record the species and habitats they see whilst diving in the UK. The publicly available Seasearch dataset currently comprises over 304,000 verified records of over 2,500 species at 7,400 sites.

Assimilating and interpreting raw data from a wide range of sources to underpin decision making is challenging at the best of times; it is even more difficult during face-to-face negotiations with sea users whose lives and livelihoods could be affected by conservation designations. To help stakeholders from the conservation sector to advocate key sites during the MCZ design process, the Wildlife Trusts, RSPB and Marine Conservation Society collaborated to produce a guidance document highlighting 'biodiversity hotspots' and other

areas of ecological interest, outlining the reasons for their importance and most importantly listing the sources of supporting evidence. Similarly, the RSPB and BirdLife International produced an extremely helpful series of factsheets about important seabird species, detailing their key habitats, diet and foraging habits, to enable these to be taken into account while designing the MCZ network.

In accordance with the ecological network design principles, the proposed MCZs were primarily designed to protect habitats and sessile or low-mobility species. At the outset of the project it was acknowledged that site-based protection could be an effective mechanism for providing conservation benefits to highly mobile species, but there was insufficient spatial data to support the identification of relevant areas in UK waters. Seizing the opportunity to maximise benefits for pelagic species, the Wildlife Trusts collated and interpreted data on key species provided by the Marine Conservation Society, RSPB, the Shark Trust and the Whale and Dolphin Conservation Society to produce a data layer showing areas of additional pelagic importance. This data layer was made available to Net Gain project staff in December 2010, and was immediately used by stakeholders to adjust the boundaries of the draft MCZs to encompass areas of high pelagic productivity.

A national independent Science Advisory Panel provided scientific support and guidance to all four of England's regional MCZ projects, providing feedback throughout the process on whether the stakeholder recommendations were supported by the available evidence and how well they fulfilled the ecological network design principles. The Science Advisory Panel comprises eight world-leading marine experts, including Professor Michael Elliott of the University of Hull and Professor Callum Roberts of the University of York. Between them, the four regional projects recommended 127 sites for protection as MCZs, ranging from thin strips of coastline to vast swathes of seabed. The Yorkshire and Humber area contains six proposed MCZs and two proposed highly protected reference areas, within which all anthropogenic pressures should be removed to allow the features of the site to achieve 'reference conditions'. The locations of these proposed MCZs are shown in Fig. 1 and a brief description of their key features is given below.

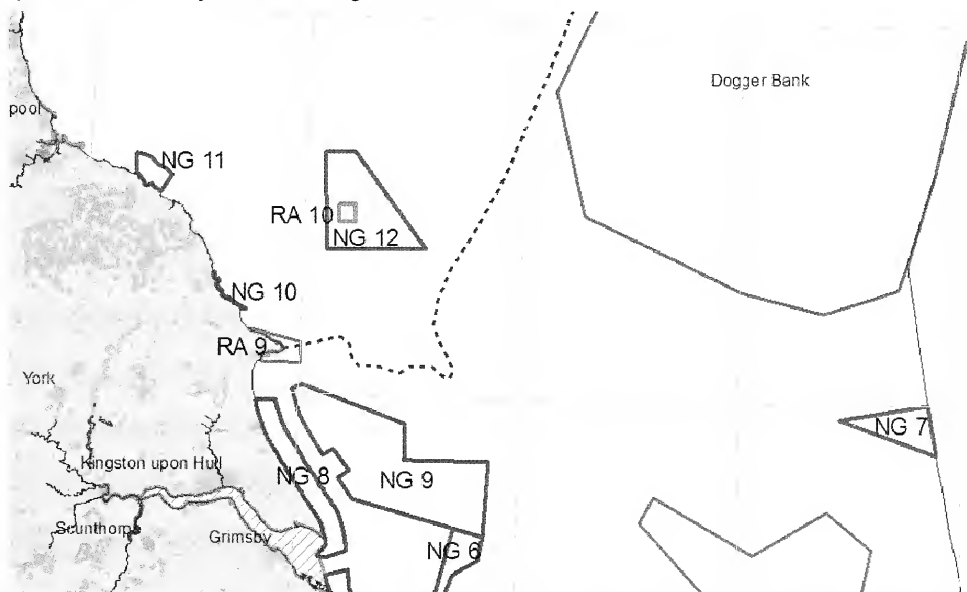


Fig. 1. Locations of the six Yorkshire & Humber proposed Marine Conservation Zones and two Reference Areas

Holderness Inshore (site NG 8)

Stretching from the tip of Spurn Point in the south to Skipsea in the north, this site covers 307km² of seabed extending 3 nautical miles from the shore. It was proposed to protect broad scale habitats of mixed sediments and sand, as well as priority features including subtidal chalk, clay exposures and reefs constructed by the Ross Worm *Sabellaria spinulosa*. The site has additional ecological importance as a resource for foraging birds, including Puffin *Fratercula arctica*, Common Guillemot *Uria aalge*, Shag *Phalacrocorax aristotelis*, Cormorant *P. carbo*, Kittiwake *Rissa tridactyla*, Fulmar *Fulmar glacialis* and Gannet *Morus bassanus*. Data to support the proposed designation of this site were provided by a wide range of sources, notably the University of Hull, East Yorkshire Ringing Group, the RSPB, Yorkshire Wildlife Trust and Seasearch. The site is already subject to a year-round trawling ban and is deemed to be in favourable condition, so the proposed conservation objective is to maintain the condition of all the features for which the site is designated.

Holderness Offshore (site NG 9)

This site begins 6 nautical miles offshore from the Holderness Coast, its boundaries approximately level with Barmston in the north and Kilnsea in the south. It extends eastwards for around 50km, encompassing over 1,176km² of seabed and reaching depths of 50m. It was proposed to protect the broad scale habitats of subtidal coarse sediment and mixed sediment, but could have additional ecological significance due to high productivity associated with the Flamborough Front, a nutrient-rich upwelling which occurs where the cold waters of the northern North Sea meet the warmer waters of the southern North Sea. The MCZ boundary was designed to incorporate seabird 'hotspots' while avoiding three existing or potential wind farm sites. The proposed conservation objective for this site is to enable the site to recover to favourable conditions by 2020 through management of human activities likely to damage its features, such as extraction or abrasion of the seabed substrate.

Castle Ground (site NG 10)

Although it is named after its prominent feature, Scarborough Castle, this site runs from Scalby Mills in the north to the southern side of Filey Brigg in the south. It is a long narrow site, proposed for its mosaic of intertidal habitats, including sand, mud, coarse sediments and rocky shores ranging from sheltered bays to exposed headlands. The intertidal sediments are an important foraging area for seabird species including Kittiwakes, Turnstones *Arenaria interpres* and Purple Sandpipers *Calidris maritima*, while the rocky shores support a great diversity of flora and fauna. A 1995 survey recorded 225 species in 10 phyla around Filey Brigg (Hull, 1995), providing a useful source of baseline data for this site. Intertidal underboulder communities are a habitat of particular conservation importance proposed for protection within the site. All of the habitats within this 3.7km² site were deemed to be in favourable condition, so the aim of MCZ designation would be to maintain this condition through responsible management.

Runswick Bay (site NG 11)

This site lies adjacent to the North Yorkshire and Cleveland Heritage Coast with its northern boundary at Staithes, its southern boundary just north of Sandsend, and Runswick Bay at its centre. It extends 3 nautical miles out to sea, encompassing a mosaic of habitats and reaching depths of up to 30m. The site is of particular interest as it contains a matrix of broad-scale habitats, each supporting diverse and unique communities. Its waters provide suitable spawning areas for Herring *Clupea harengus* and Lemon Sole *Microstomus kitt* and

nursery areas for Sprat *Sprattus sprattus*, Cod *Gadus morhua*, Whiting *Merlangius merlangus* and Plaice *Pleuronectes platessa*. It is proposed for designation in order to protect seven different broad scale habitats and a one-kilometre square habitat of particular conservation importance, subtidal sands and gravels. Its designation would also offer protection to the long-lived bivalve mollusc Ocean Quahog *Arctica islandica*, which has been recorded at several locations within the site. The site falls within a current no-trawl zone and its features are judged to be in favourable condition.

Compass Rose (site NG 12) incorporating Reference Area 10

Approximately 30km offshore from the North Yorkshire Coast, this 55 km² site is proposed for designation to protect a deep-water rocky reef which is sheltered from waves and currents. At depths of up to 50m, the reef does not support the algal growth that would be found in shallower sites, but provides habitat for animal communities of cup corals, anemones, sponges, mussels, worms, starfish and brittle stars. Data on seabirds and pelagic species provided by JNCC and the Wildlife Trusts shows an area of high pelagic productivity to the south of this site, most likely associated with the Flamborough Front. Stakeholders from the conservation sector advocated extending the southern boundary of this site to incorporate the area of high pelagic productivity, but this proposal encountered strong opposition from the commercial fishing sector.

Sheltered deep-water reefs are vulnerable to a range of pressures including abrasion and siltation of the seabed and extraction of species; activities causing these pressures would therefore need to be managed in order to achieve the site's proposed objective of restoring the reef to favourable condition by 2020. Stakeholders also recommended creating a 25km² highly protected reference area within the larger site, in which all extractive and damaging activities would be prohibited.

Markham's Triangle (site NG 7)

At almost 140km from the Holderness coast, this is the furthest offshore of the proposed MCZs in the Yorkshire region. The site is proposed for designation to protect the broad scale habitats of subtidal coarse sediment and subtidal sand, home to burrowing fauna such as polychaete worms, bivalves and amphipods which are a source of food for more mobile predators. Relatively little is known about the wildlife of this offshore site, but it shares boundaries with two very important sites in the North Sea. Cleaver Bank is designated a Special Area of Conservation under the European Habitats Directive due to the presence of Harbour Porpoise *Phocoena phocoena*, Grey Seal *Halichoerus grypus*, and Common Seal *Phoca vitulina*. The bank also supports a high level of macrobenthic diversity, with 44% of the species recorded there being endemic to this area. Outer Silver Pit is a geological feature consisting of glacial tunnel valleys at depths of over 80m which act as a refuge for crabs and lobsters and provide some of the richest fishing grounds in the North Sea. The proposed MCZ of Markham's Triangle would provide excellent connectivity between these two sites.

Flamborough Head No Take Zone (Reference Area 9)

Stakeholders proposed the designation of a 0.94km² highly protected reference area to the south of Flamborough Head in order to protect the littoral chalk with its communities of seaweeds and invertebrates. The site boundaries are largely coincident with the boundaries of the existing Flamborough Head No Take Zone which runs from Sewerby Steps to Danes Dyke and extends 700m from the cliff base out to sea. A Seasearch survey conducted in 2009 found extensive mussel beds, forming a biogenic reef which provides a substrate for seaweed and sessile fauna and shelter for mobile fauna including 13 species of crustacean.

Next steps

The Science Advisory Panel is now assessing the final stakeholder recommendations from all four projects, with a view to providing feedback by the end of 2011 on how well the proposed network meets the ecological network design principles. Natural England and JNCC will also provide their assessment and advice to Government. The Net Gain staff will produce an impact assessment to evaluate the economic, social and environmental impacts associated with the designation of the proposed network of MCZs.

Ministers will then consider which sites should be put forward for public consultation and potential designation. Together with existing and proposed Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) designated under the Habitats and Birds Directives, Ramsar sites and SSSIs in estuarine and coastal waters, the new Marine Conservation Zones will help to fulfil the Government's commitment to establish an ecologically coherent network of Marine Protected Areas by December 2012.

But this is not the end of the story! Ongoing surveillance and monitoring of these sites will be crucial to ascertain whether they are achieving their conservation objectives. Just as information provided by volunteer recorders played an important role in determining the location, size and boundaries of the proposed sites, so it will be vital in monitoring changes in biodiversity in years to come.

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For information on field meetings, surveys and training courses run by the Yorkshire Naturalists' Union's newly formed Marine and Coastal Section contact Paula Lightfoot on p.lightfoot@btinternet.com or visit www.ynu.org.uk/marine_coastal

Letter to the Editors:

Pellets: Coughing up the Truth or Flight of Fancy?

Re. my article of the above title (*Naturalist* 1076, pp15-18), I would like to thank Dr John R. Mather for his letter (*Naturalist* 1077, p99) pointing out an error and to apologize for this. The mistake was in an early draft and should not have made its way into the final version submitted to the editors. Lines 32-4 (p17) of the article should read "Female birds normally possess only one functional ovary and oviduct, not two as in mammals, whilst in males one testis, the right, is generally smaller than the left and both are dormant and much reduced in size outside the breeding season." Fortunately the error does not impinge on the question I was attempting to discuss i.e., the possible adaptive significance of pellet production in birds.

Anthony Wardhaugh

Book Review

The Grasshoppers, Bush-crickets and Allies of Dorset by Bryan Edwards, pp.107. Dorset Environmental Records Centre, Dorchester (2011). ISBN 978-0-9511394-6-2.

Apart from one grasshopper which is confined to a small part of the Isle of Man, the odd exotic residing in Cornish greenhouses and, surprisingly, Mole Cricket, all British species of Orthoptera are found in Dorset. Hence, a field guide to the Orthoptera of Dorset will serve for almost anywhere in Britain. When supplemented with the distribution maps on the British Orthoptera website you have all you need. Good field guides to Orthoptera are scarce. The classic texts, Ragge (1965) and its successor, Marshall and Haes (1988), are long out of print, so a new text is welcome.

The first problem facing any author of a text on this subject is to define the subject matter. Ragge's book covered long- and short-horned grasshoppers, groundhoppers, Mole Cricket, true crickets and cockroaches. Marshall and Haes added earwigs to this list and the Field Studies Council folding leaflet (Marshall, 1999) has the same coverage as does Bryan Pinchen's Pocket Orthoptera Guide (Pinchen, 2006). Valerie Brown's handbook (Brown, 1983) is confined to long- and short-horned grasshoppers. The first photographic guide (Evans & Edmondson, 2007) excludes both earwigs and cockroaches but usefully provides an extensive range of photographs of colour forms of short-horned grasshoppers, which can cause problems to beginners. For its coverage, this is undoubtedly the best book on the market.

The book under review is also a photographic guide providing one good photograph of each species. Unlike Evans and Edmondson (2007) it covers earwigs and cockroaches, providing excellent photographs of each of the three native cockroaches but illustrating only Common Earwig. While the text is brief there are very good, clear keys. The slim but light and robust shiny format is suitable for use in the field. You may, however, want something more substantial on the bookshelf at home.

From the work we learn that Ragge's famous Purbeck colony of Wart-biter is, sadly, no more.

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JB

The Rodley Dragonfly Conservation Area: An Update

Peter Mill 8 Cookridge Grove, Leeds, LS16 7LH gpmill@supanet.com

The Dragonfly Conservation Area (DCA) at Rodley Nature Reserve (RNR) is a great success; indeed a sixteenth species of dragonfly, the Emerald Damselfly *Lestes sponsa*, was seen this summer and so can be added to the 15 noted in Mill (2011). All of the water bodies are becoming well established and even the newer ones now look natural (Plate IV) even though, as in the case of the earlier ones, they had to be lined because of the fluctuating water table. Hence it is timely to consider what lessons can be learned.

As mentioned in Mill (2011), the first four ponds were planted out with different submerged, floating and emergent vegetation to try and determine whether particular plant species have any effect in attracting specific dragonflies and damselflies. However, as far as the species that have been attracted so far are concerned, it would appear that it is the plant architecture that is of prime importance rather than the presence of individual plant species. There seem to be no constraints on the choice of ponds for oviposition. However, some preferences have been shown for emergence sites for the larvae. Thus the Azure Damselfly *Coenagrion puella* has shown a preference for emerging on Yellow Flag Iris *Iris pseudacorus* in the ponds where this is present, in spite of the leaves often being much wider than the emerging larvae. Nevertheless the latter manage to obtain a firm grip. However, they also emerge on rushes so there is no problem in those ponds where Yellow Flag Iris is absent. The Brown Hawker *Aeshna grandis* has shown a marked preference for emerging on the leaf bases of Greater Spearwort *Ranunculus lingua* and, in this case, the thickness of the stems seems ideal for the width of grip of the emerging larvae.

The size of most of the ponds means that there is room for a drawdown zone and topping up with water can be carried out at fairly long intervals even in times of drought. Damselflies are all endophytic ovipositors, i.e. they lay their eggs in plant stems, and most dragonflies either lay in, or in the vicinity of, plant material or in the mud at the water's edge. However, there are some, such as the Darters, that may lay their eggs in open water. The ponds are large enough to maintain areas of open water while allowing for the development of plenty of emergent and floating plants. Indeed, the size of the ponds that have been installed has proved to be a success in that a good range of odonate species as well as other wildlife has been attracted to them. Thus an ideal size for a wildlife pond appears to be in the order of about 8-12m in diameter. The small pond that we installed (3m in diameter) soon starts to look empty, with the drawdown zone soon forming a significant proportion of the overall pond area, and hence the pond requires the addition of water more frequently. This effect could be reduced by having steeper banks but this would make it more difficult for amphibians to get out. Conversely, there is probably no great merit in producing ponds with a diameter greater than 15m; indeed if such large ponds need to be lined there will be considerable expense involved and large liners need more people to lay them because of the weight of the liner. At least one region with a shallow slope is important so that amphibians (and small animals that fall in accidentally) can get out easily. If the pond is in a public area, or where there are small children, it is advisable to have a shallow slope all the way round. There is no particular merit in having steep banks, except perhaps where pond dipping is organised; we have done this on the two sides of the 'Education' pond where we have decking with a safety rail and in the ditch which, by its nature, precludes shallow sides. However, the ditch is only 2-3m wide and is only accessible from the paths in the vicinity of the bridge. There is also no reason for a deep pond. Most of those in the DCA are no more than about 80cm deep in the centre (the

ditch is slightly deeper) and some are no more than about 60cm deep. This is perfectly adequate for providing good conditions for both plants and animals and is sufficient to ensure that there is always a good volume of water present - even when the ponds froze up in the winter of 2010/2011.

The marsh area was planted out with a variety of native plants that like boggy or wet conditions, including a number of reeds and sedges; Toad Rush *Juncus bufonius*, Branched Bur-reed *Sparganium erectum*, Lesser Pond Sedge *Carex acutiformis*, Pendulous Sedge *Carex pendula* and Hop (Cyperus) Sedge *Carex pseudocyperus*. One of the ideas behind this was to produce plenty of cover for species such as the Emerald Damselfly *Lestes sponsa* (see below). Other plants have invaded the marsh area and the ponds, notably Common Water-plantain *Alisma plantago-aquatica*, Hard, Compact and Soft Rushes (*Juncus inflexus*, *J. conglomeratus* and *J. effusus* respectively), Reedmace/Bulrush *Typha latifolia*, Canary Grass *Phalaris canariensis* and, in one of the ponds, Orange Foxtail grass *Alopecurus aequalis*.

In order to maintain the water bodies in good condition for dragonflies, some maintenance is required. In these early years of the DCA this has mainly involved the removal of Reedmace, which is prevalent in the adjacent wet grassland. Once a plant becomes established it sends out strong runners and, if unchecked, would take over completely in just a few years. Likewise Canary Grass needs to be kept in check and is being largely removed from the marsh area this autumn. Greater Spearwort can also become something of a problem and, after a few years, has required some culling. However, it works well in the pond and marsh area where we have planted it but would not be suitable for a small pond. Eventually, other plants, such as Broad-leaved Pondweed *Potamogeton natans* and the above rushes, will need to be thinned so as to maintain some areas of open water, which is a prerequisite for attracting many odonate species, and some such culling is planned for this winter (2011/2012). In the early years in particular, blanket weed became extensive in the summer months. It is unsightly and control has been tried using barley straw pouches, barley straw pellets and 'Hydra Quartz'. However, none of these treatments is particularly cheap for the size of the ponds in the DCA, especially since repeated treatment is recommended. Consequently it has been found better to leave the blanket weed alone and indeed it has decreased in subsequent years as the ponds have become better balanced. Physical removal is not an option as the removed weed traps invertebrates and small vertebrates.

The commonest odonate species in the DCA are the Azure Damselfly *Coenagrion puella*, the Brown Hawker *Aeshna grandis* and the Common Darter *Sympetrum striolatum*; the Blue-tailed Damselfly *Ischnura elegans* is present in quite good numbers. Although the Large Red Damselfly *Pyrrosoma nymphula* has been seen ovipositing each year, its numbers remain fairly low. The Broad-bodied Chaser *Libellula depressa* (Fig.1) has been seen ovipositing in most years and larvae were found in the marsh area this spring (2011). The Southern Hawker *Aeshna cyanea* and the Emperor Dragonfly *Anax imperator* are seen every year and there are occasional records of these species ovipositing and exuviae of both have been found. Both of these species have extended their range northwards in recent years as a result of climate change (Hickling *et al.*, 2005; Brooks *et al.*, 2007; Mill *et al.*, 2010) but are still not as common at RNR as might be expected. The Banded Demoiselle *Calopteryx splendens* breeds in rivers, and tree clearance along a stretch of the River Aire has resulted in an increase in the number seen each year on the reserve; they are often found in the DCA, which is adjacent to the cleared section of bank. This is another species that has expanded its range northwards but this may be as much to do with the improvement in the

water quality of our northern rivers as with climate change (Ward & Mill, 2004; Brookes *et al.*, 2007; Mill *et al.*, 2010).

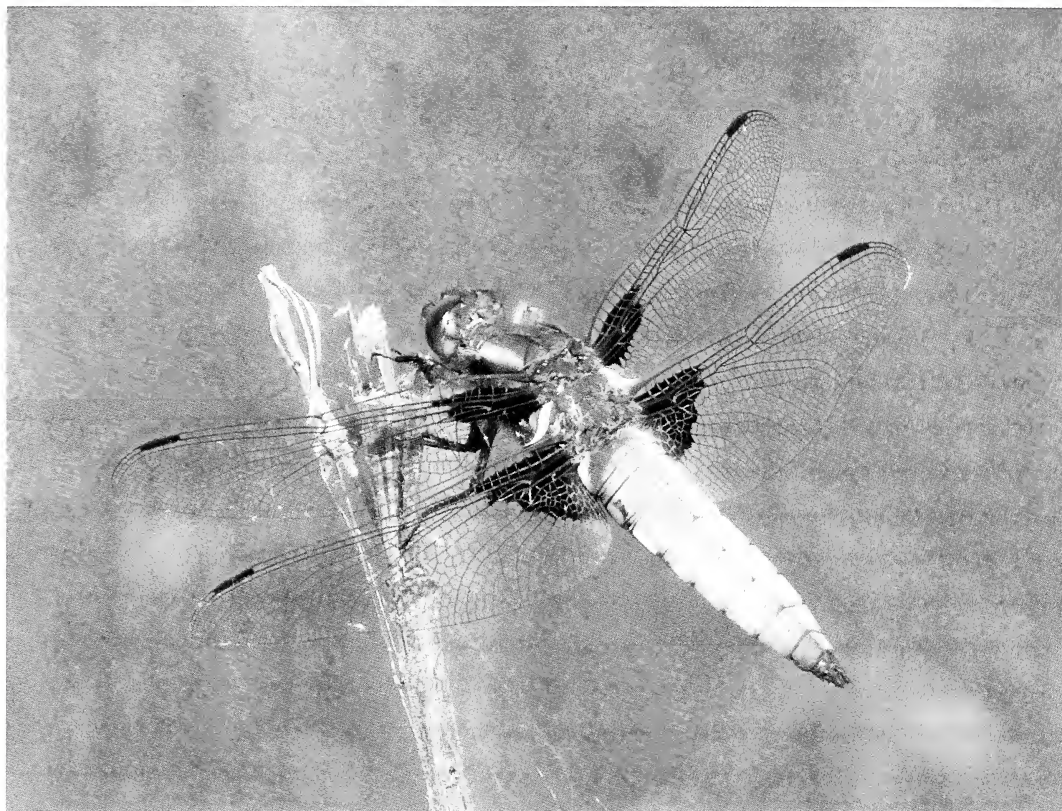


Figure 1. Broad-bodied chaser *Libellula depressa* is a regular breeder at Rodley Nature Reserve
P. Simmons

The Black-tailed Skimmer *Orthetrum cancellatum*, the Migrant Hawker *Aeshna mixta* and the Four-spotted Chaser *Libellula quadrimaculata* are seen regularly but none has been observed to oviposit. The first two are also species that have extended their range northwards in recent years (Brooks *et al.*, 2007; Mill *et al.*, 2010) while the Four-spotted Chaser has become more common in northern England. Hence all three of these are expected to become more common at RNR. The Common Hawker *Aeshna juncea* was first seen in 2010 but unfortunately there have been no confirmed sightings this year. This is a species that breeds in neutral to acidic waters and is generally associated more with moorland ponds so it is a real bonus for it to be seen at RNR. There have been records of the Common Blue Damselfly *Enallagma cyathigerum* and the Ruddy Darter *Sympetrum sanguineum* but I would like to see confirmation of the latter, which is another of those species that have been extending their range northwards (Brooks *et al.*, 2007; Mill *et al.*, 2010). The one species that I have found surprisingly absent is the Emerald Damselfly *Lestes sponsa*. It likes dense emergent vegetation and, as this develops, I would expect it to be more likely to be attracted to the site, perhaps particularly in the ponds in the marsh area where the reeds and sedges are flourishing. However, there is cause for optimism as an individual Emerald Damselfly was photographed by Barbara Murphy on 15 August this year on one of the phase 1 ponds.

To date, no rare odonate species have occurred. The Red-eyed Damselfly *Erythromma nyas* is attracted to water with lily pads and these are present in several of the ponds. However, this species is only present at a few sites in Yorkshire, none of which are close to Leeds. Other species to look out for are the Variable Damselfly *Coenagrion pulchellum* and the Hairy Dragonfly *Brachytron pratense*, the latter of which has become more common within its range (Mill *et al.*, 2010) and is a candidate for increasing its range northwards in England.

The submerged, floating and emergent plants are all doing well whilst, among those that prefer boggy areas, Ragged Robin *Lychnis flos-cuculi*, Meadowsweet *Filipendula ulmaria*, Marsh Marigold *Caltha palustris*, Water Avens *Geum rivale*, Greater Bird's-foot-trefoil *Lotus uliginosus*, Pennyroyal *Mentha pulegium* and the Cotton Grasses *Eriophorum angustifolium* and *E. latifolium* are thriving particularly well; likewise, all of the reeds and sedges mentioned above.

Mention should be made of other animals that have been attracted to the site. The Common Frog *Rana temporaria* is breeding in good numbers and the Common Toad *Bufo bufo* is very prolific, a brief walk round just one of the ponds earlier this year (2011) revealing at least 20 individuals. Smooth newts *Lissotriton vulgaris* exceeded 100 this spring and a few Palmate Newts *Lissotriton helveticus* are present. Furthermore, this spring a Grasshopper Warbler *Locustella naevia* took up residence and a pair of Great Tits *Parus major* nested in a nest box set up in the DCA.

Overall, the DCA is a real success story and we have had numerous very favourable comments from the public. It has considerable potential for attracting yet more odonate species, hopefully a number of which will breed there, and it is also proving to be attractive to a variety of other wildlife, both plant and animal.

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Note In addition to the donors mentioned in Mill (2011), the Co-op also provided some funding for phase 2.

Mathew Henry Stiles

Having recently received a copy of the magnificent new YNU publication *The Story of South Yorkshire Botany* by Graeme Coles, I was delighted to see page 2 entirely given over to the photograph of the assembled participants at the YNU (VC63) meeting to Roche Abbey 8 May 1884. This detailed image, produced originally from a glass plate negative in Doncaster Museum, was taken by the pharmacist photographer and pioneer in photo-microscopy Mathew Henry Stiles FRMS (1846-1935). It is a tribute to the quality of Stiles' photograph that Graeme Coles was able to identify, isolate and print a full length portrait of the botanist F.A. Lees from the assembled crowd (see figure 39 on page 72), and indeed this group photograph provides a unique photographic archive of many of Yorkshire's leading naturalists of the late 19th century.

Stiles, one of the founder members (in 1880) of the Doncaster Microscopical and General Scientific Society (now the Doncaster Naturalists' Society), took part in this YNU meeting along with his friend and fellow Diatomist John Maw Kirk FRMS (1850-1894), both of whom joined the Union on that occasion (*The Naturalist* 9 (1883/84): 198-200). Actually, a large contingent travelled over from the Doncaster Society, some of whom helped to lead battalions of YNU members and illustrious guests including civic dignities and clerics to the various far flung venues including Martin Beck Common near Bawtry.

Stiles' and Kirk's association with the Union led to the formation of the very productive YNU Micro Zoology and Botany section in 1886. Stiles was a prolific fieldworker publishing some 12 papers on diatoms in the *The Naturalist* (1893 to 1931) and others in the *North Western Naturalist* and the proceedings of the *British Association for the Advancement of Science*. He also supplied material which Messrs W. and G.S. West utilised in the *Alga-Flora of Yorkshire* (1901).

His competence in producing photo-micrographs was demonstrated in his paper 'Structure of Oolitic Limestone' (*The Naturalist* 40 (1915): 60-63) and his talents in this respect were frequently used by other workers, including the noted Yorkshire geologist W.S. Bisat FRS (1886-1973), both in published work and public lectures.

A number of Stiles' landscape and portrait photographs still exist in the collections of Doncaster Museum, some featuring in a temporary exhibition at Cusworth Hall Museum during 2010. A collection of anonymous photographic plates, including photo-micrographs, recently purchased at auction in the United States have been researched by Dr James McCormic and found to be the work of M.H. Stiles.

C.A. Howes



Plate V (see p 187)

New Brighton shore showing (mid distance) the concrete blocks covered by *Fucus* and other algae, and sand retained by these defences. G.Russell



Plate VI VC63 Excursion to Went Ings, Sykehouse (see pp201-205).

YNU botanists (from left) Don Grant, John Scott, Phyl Abbott and Louise Hill examine a specimen.

J.Simmons

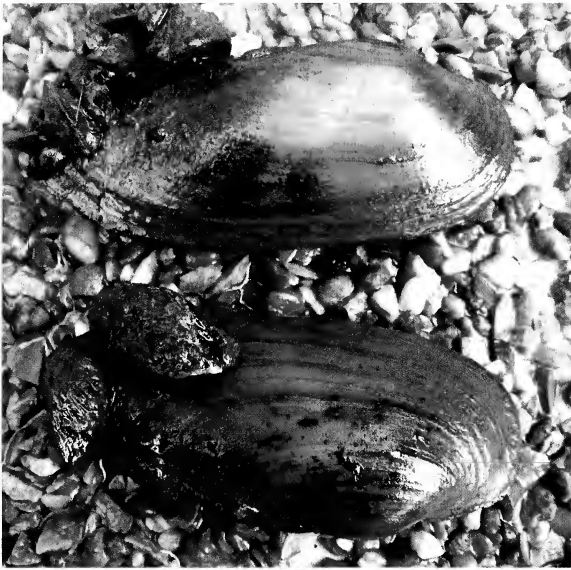


Plate VII VC63 Excursion to Went Ings, Sykehouse (see pp201-205).

Above left: Freshwater mussel *Unio pictorum* with Zebra Mussel *Dreissena polymorpha* from the New Junction Canal. A.Norris

Above right: Cucumber Green Spider *Araniella opisthographa*. J.Simmons

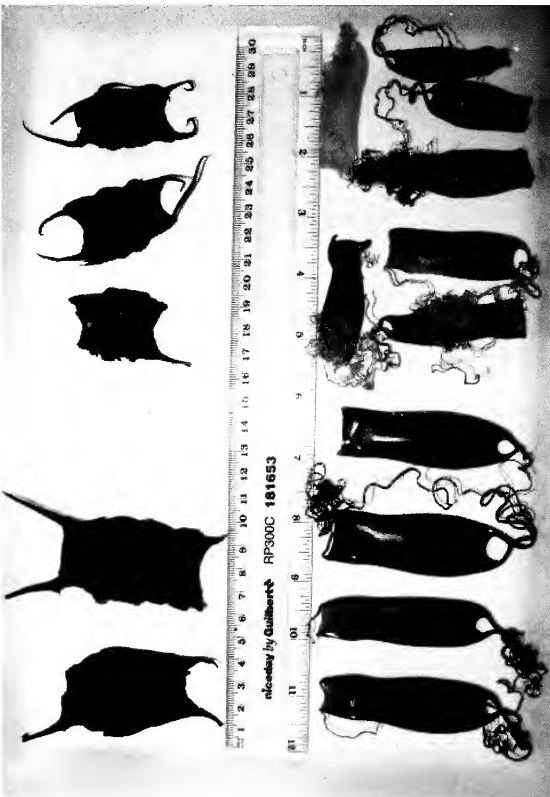


Plate VIII. VC61 Excursion to Spurn (see pp205-208).

Above: Live and dead Shore Crabs *Carcinus maenas* and Edible Crabs *Cancer pagurus* entangled in fishing line on a groyne. P.Lightfoot

Left: Egg cases collected at Spurn. Clockwise from bottom left: two Thornback Ray *Raja clavata*, three Starry Skate *Amblyraja radiata* and eleven Lesser Spotted Dogfish *Scyliorhinus canicula* egg cases. P.Lightfoot



Plate IX. VC62 Excursion, Newtondale (see pp209-211). General view with (inset) hybrid Orchid *Dactylorhiza* sp. J.Newbould

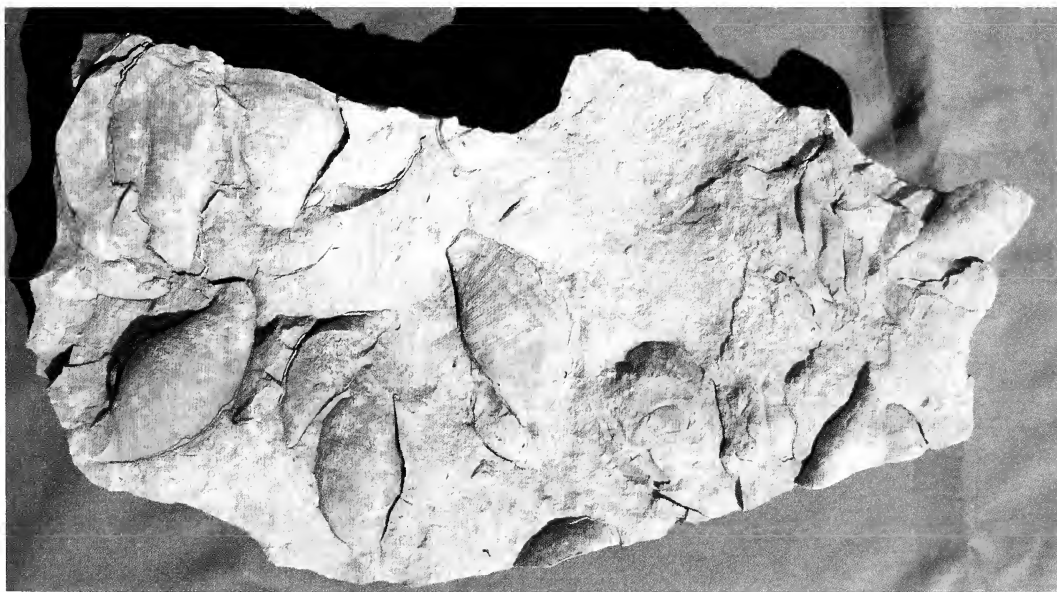


Plate X VC65 Excursion, Gunnerside
Slab section showing specimens of a Brachiopod, probably *Gigantoproductus giganteus*, from Draygill. A.Norris



Plate XI. Participants at Malham Tarn Field Centre for the VC64 field excursion and event to celebrate YNU's 150th anniversary (see pp212-219). J.Newbould



Plate XII. Species seen during the VC64 visit (clockwise from above):

Female Merlin *Falco columbarius* pursuing a Peregrine *Falco peregrinus*. K.White

Marsh Helleborine *Epipactis palustris*. J.Newbould

Autumn Gentian *Gentianella amarella*. J.Newbould

Large Emerald moth *Geometra papilionaria*. M.Curtis



Yorkshire Naturalists' Union Excursions In 2011

Compiled by
Albert Henderson and Adrian Norris

GENERAL INTRODUCTION (Adrian Norris)

The field meetings during the 150th year of the YNU have proved to be a great success including one of the largest turnouts of members and friends for any single vice-county field meeting. Over 45 attended the three-day meeting held at Malham, representing 25 affiliated societies. The number of members and friends who attended one or more of the five vice-county meetings totalled 95 representing 30 affiliated societies, 65 percent of the affiliated societies registered with the Union in 2011.

The high-visibility vests acquired by the YNU as a direct result of a grant from Welcome to Yorkshire to help support, promote and market the Scarborough BioBlitz, made our presence highly visible to locals and passers-by, resulting in higher than average interaction with locals and others visiting the sites. It is encouraging to note that this has resulted in the YNU recruiting new members from parts of the population which normally have little or no direct contact with our organisation; in one case at least, a resident of the village in which we met.

Went Ings, Sykehouse (VC63) 21 May 2011 (NGR Centrum SE645175)

INTRODUCTION (Joyce Simmons)

A breezy but fine and pleasant day was enjoyed by 25 YNU members representing 13 affiliated societies. This area includes small SSSI fields with high hedges and ditches; the River Went with its old flood banks on which mature oaks and willows grow; the New Junction and Aire and Calder Canals with vegetated towpaths, which offered a diversity of habitats. The previous weeks had been very dry, after a very cold winter but warm spring. This meant that several species were ahead of expected dates, but the dry ditches did not favour damp-loving groups such as the molluscs, although the waterways proved to be more productive. Dredging the New Junction Canal for molluscs also yielded a freshwater sponge.

Plant gall specialists were delighted with over 40 species. Four species of mosses associated with clean air were found, showing a welcome reduction in pollutants, as well as a very specialised moss *Leskea polycarpa* which lives only on old willows near rivers.

Members attending a previous YNU excursion to nearby Fishlake in July 1976 feared that the area might suffer from ploughing and hedge removal, but thankfully that has not happened, and now members worry that some of the wildlife value may be lost if the old willows are not soon pollarded.

The tea meeting was in the very pleasant Sykehouse Village Hall, also in use by the village cricketers.

I would particularly like to thank John Scott for his help in arranging the meeting, farmer Bill Richardson for allowing us to hunt in his hay meadows, and British Waterways and the Burnet Trust for permission to visit their properties.

MAMMALS AND LOWER VERTEBRATES (Colin Howes)

Rabbit and Hedgehog featured as road casualties. Domestic cats were encountered hunting around farms and the rural edge of village properties. Roe Deer were seen by various members and footprints, droppings and laying-up sites were frequent. Brown Hare was seen in Hay Meadows. A Red Fox was disturbed from an overgrown drain. Grey Squirrel and its drays were seen in oaks and in gardens. Rabbits were along most paths and Green Lanes but the Went Barrier Bank and canal banks had the greatest concentrations of signs. A Badger had recently been killed on the road on the outskirts of the village and recent evening walks to the Canal aqueduct over the River Went showed this to be an important feeding area for Daubenton's Bats.

CONCHOLOGY (Adrian Norris)

The main thrust of the day as far as the Conchological Section was concerned was to investigate the molluscan fauna of the New Junction Canal and its environs. 34 species were recorded, 18 freshwater and 16 land species from 6 one-kilometre squares running along the length of the canal from its junction with the Aire & Calder Navigation to the Sykehouse Lock. In total 76 new records were added to the molluscan database.

The Zebra Mussel *Dreissena polymorpha* occurred in all sections of the canal whilst the Painter's Mussel *Unio pictorum* was only located live at one site in SE6316 (Plate VII). Strangely, a live example was found attached to a fishing line extracted from the canal. Large numbers of dead shells of Duck Mussel *Anodonta anatine* had been dredged from the canal and dumped on the canal banks. Another interesting freshwater species record was of live examples of the Orb Mussel *Sphaerium rivicola* found at SE6518 close to the junction of the Aire & Calder Navigation.

LEPIDOPTERA (Joyce Simmons & Terry Crawford)

From the anglers' car park at SE645176 we walked on the canal tow path to the aqueduct, crossed the footbridge, then moved east along the Barrier Bank and into the SSSI Went Ings meadows (SE6518).

The bright sunshine and early spring brought forward many species of butterflies and day-flying moths which were spotted beside the canal, in surrounding meadows and lanes. Ten species of butterflies were recorded, including Small Copper, good numbers of Common Blue near Bird's-foot-trefoil, and a Brown Argus of the race that has colonised Yorkshire from the south following adoption of *Geranium* as food-plant. Of six moth species, the most interesting was the pyralid *Phlyctaenia perlucidalis* which rather resembles a small, early summer version of the well-known Mother of Pearl. First recorded in 1951 at Woodwalton Fen and regarded as nationally scarce, it is spreading through Yorkshire and is not uncommon now in VCs 61, 63 and 64.

HYMENOPTERA - PARASITICA (Bill Ely)

The ichneumon *Gregopimpla inquisitor* at New Junction Canal was new to the VC (and to me) and this is only the third Yorkshire site.

SPIDERS (Arachnida, Araneae) (Richard Wilson)

Mid May falls within what may be considered the 'peak' period, when spider diversity may be at its highest, so the recorder was anticipating a high percentage of mature specimens necessary for species determination. Prior to the meeting, a check on the national spider-recording scheme database for VC63 was made, to determine if any previous records had been collected on the site. This revealed a mere four species, of which *Tetragnatha striata* can be considered the most interesting. Therefore, the majority of species collected would be new records for the area and for the tetrad.

The site is divided into a series of fields, bisected by mature and species-rich hedgerows, woodland and the canal. Effort was spent recording in three fields. A total of 20 species were recorded during the day, none particularly remarkable. However, *Tetragnatha striata* was confirmed as being still present; it was recorded by sweeping vegetation in one of the boundary ditches (SE647182). Four species of wolf-spider (*Pardosa pullata*, *P. amentata*, *P. prativaga* and *P. agricola*) along with the ghost-spider *Zora spinimana*, which is similar in appearance and habit, were collected in the same field (SE649180) by grubbing (i.e., hand-searching) amongst the grass tussocks. The oaks that bordered this field had their lower branches beaten over a Bignall Tray (an upturned umbrella will equally suffice) in an attempt to discover those spiders more at home above ground level rather than lurking amongst the leaf-litter. This revealed the presence of the bright-green orb-web spider *Araniella opistographa* (Plate VII). There are four members of this genus in the UK, all bright green, but only two are common. Unusually for me, I also recorded another arachnologist, my predecessor Colin Howes, who was observed, but not taken, displaying on the canal bank.

PLANT GALLS (Tom Higginbottom)

One of the most colourful galls found during the day was the bright orange fungus *Triphragmium ulmariae* which had distorted the leaves of Meadow-sweet. Joyce Simmons discovered another fungal galler, *Puccinia violae*, on a violet stem.

On finding stretches of Field Maple in the roadside hedgerows, we recorded the common mite galls: the small red pimples of *Aceria aceriscampestris*, the slightly larger more rounded galls of *A. macrochelus* and on the lower leaf surface the erineum of *A. eriobius*. The leaf roll *Phyllocoptes goniothorax* and the small white pimples of *Aceria crataegi* were common on Hawthorn. Wherever there was Alder the small pimples of *Eriophyes laevis* and the erineum of *E. brevitarsus* were abundant.

Midge galls were quite common on a number of different hosts. Leaves of Goat Willow were host to *Iteomyia capreae* while *I. major* was found on Grey Willow. It was also interesting to record the common midge galls on Oak of *Macrodiplosis pustularis* which rolls the lobe of the leaf downwards, and *M. roboris* which rolls the margin between the lobes upwards. *Dasineura fraxini* had swollen the mid-rib of some ash leaflets and *D. acrophila* had thickened and folded some ash leaflets upwards, forming pod shapes. Midge galls were also discovered on herbaceous plants. Ian Farmer discovered *D. trifolii*, which had thickened and folded upwards leaflets of white clover. He also found a single example of the hairy pouch gall, *Jaapiella veronicae*, on Germander Speedwell.

An uncommon gall on Ground Ivy was discovered by Pip Seccombe. The globular swelling on the stem was caused by the gall wasp *Liposthenes glechomae*. It was good to see so many examples of the currant gall *Neuroterus quercusbaccarum* on both the catkins and the Oak leaves. There were also colourful examples of the oak apple *Biorhiza pallida*. In the previous year the frequent stands of young Oak had been host to a number of galls: the

artichoke gall *A. fecundator*, the oak marble *A. kollari*, the cola-nut gall *A. lignicolus* and the knopper gall *A. quercuscalicis*. There was even an example of the tiny bud gall *A. solitarius*. Old galls of *Diplolepis rosae* were also reported on rose bushes.

Over 40 galls were discovered on the day, a higher number than was anticipated at this early period in the year. A visit later in the summer would without doubt be a rewarding experience.

BOTANICAL REPORT (Don Grant)

The Sykehouse-Fishlake area of Yorkshire is the region where several plants are at their northern limit in England. Two of these are True Fox-sedge *Carex vulpina* and Stone Parsley *Sison amomum*. Members followed the towpath on the west side of the New Junction Canal where Rough Hawk's-beard *Crepis biennis*, the bramble *Rubus echinatoides*, Hop *Humulus lupulus* and Medium-flowered Winter-cress *Barbarea intermedia* were seen. The New Junction canal had the aquatic Fennel-leaved Pondweed *Potamogeton pectinatus*.

The botanists then visited some small fields on the Went Ings (Plate VI). These were rich in rare plants. Within a carpet of Great Burnet *Sanguisorba officinalis* were Adder's-tongue Fern *Ophioglossum vulgatum*, Cowslip *Primula veris*, Dyer's Greenweed *Genista tinctoria* and Pepper Saxifrage *Silaum silaus*. The wetter parts of the field had Meadow-rue *Thalictrum flavum*, Purple Loosestrife *Lythrum salicaria*, Yellow Loosestrife *Lysimachia vulgaris* and Purple Small-reed *Calamagrostis canescens*. The most unusual plant found was the Pale Sedge *Carex pallescens*, a plant with a wide distribution in the county but only found in scattered locations.

TREES IN THE LANDSCAPE (Colin Howes)

Pollarded White Willows (*Salix alba*) are a significant landscape feature of Sykehouse and adjacent parishes with a good population in the hedgerows around the small wet pastures and hay meadows. Sadly, there is little evidence of recent pollarding, with much of the population having grown very large, magnificent but top-heavy crowns. Inevitably, some specimens are splitting and collapsing. One small triangular hay meadow adjacent to the New Junction Canal near the aqueduct over the River Went had 13 venerable multi-stemmed White Willows (4 to 10 stems) with girths (measured at chest height) up to 12ft. By contrast Common Oaks (*Quercus robur*) are a feature of the adjacent Barrier Bank, many of the larger specimens with girths between 6ft to 8ft.

Recent excavation of riverside fen peat deposits at Topham Ferry, part of a wetland conservation project, has revealed very large oak timbers, presumably dating from the Bronze Age. Excavations at this site have previously revealed massive Red Deer antlers (now in Doncaster Museum).

BRYOLOGY (Colin Wall)

Most of the day was spent searching for epiphytes on willows by the old river Went. The Went was straightened sometime between 1831 and 1841 and the meanders of the original river, neglected since the mid 19th century, are now merely shallow depressions, criss-crossing the river. Huge willows, with broken, rotting branches have developed in this area, supporting large concentrations of common bryophytes. One moss in particular, *Leskea polycarpa*, has become established here. The bases of the old trees, susceptible to flooding, were covered with this moss and its usual associate, *Syntrichia latifolia*, the habitat being ideal for these species. Unfortunately, the old fissured bark was unsuitable for new epiphyte colonisation, only *Ulotrichia phyllanthae*, *U. bruchii* and *Metzgeria violacea* being found.

The Barrier Bank, a flood bank adjacent to the river to the south, has developed a fine ribbon-type woodland and in this area were found the common woodland species *Mnium homum*, *Fissidens taxifolius*, *Bryum capillare*, *Dicranella heteromalla* and in an adjoining ditch, *Aulacomnium androgynum* and *Leptodictyum riparium* on a rotten log. On trees in this area were *Orthotrichum affine*, *O. diaphanum*, *Rhynchostegium confertum* and *Dicranoweisia cirrata*.

Concrete structures such as flood defences and sections of the canal bank extended the total with *Syntrichia ruralis*, *S. montana*, *Orthotrichum anomalum*, *Didymodon insulanus* and, in an area of limestone chippings on the canal towpath, fertile *Aloina aloides*, quite scarce away from its headquarters in the Don Gorge.

34 species were recorded for the day.

Spurn (VC61) 18 June 2011 (NGR Centrum TA417158)

INTRODUCTION (Sarah Priest)

The day dawned wet and the forecast promised heavy showers, so it was remarkable that as many as 22 members, representing 14 affiliated societies, made the long trip to the south-easternmost corner of the county. They were rewarded by steadily improving weather and some very interesting recording. Thanks are due to Andrew Gibson of the Yorkshire Wildlife Trust for permission to visit the Spurn Point YWT Reserve and for all his advice and preparation which made the day so successful. Andrew allowed us access to a number of fields on the reserve which are normally out of bounds. Thanks, too, to Petra van der Zande at the Blue Bell Tearooms for allowing us to hold our meeting there and for excellent refreshments.

GEOLOGY/PALEONTOLOGY (Sarah Priest)

Andrew Gibson showed us a huge Mammoth tusk and a Mammoth tooth recently recovered from the boulder clay cliff near the Blue Bell and thought to be over 50,000 years old. A number of interesting beach pebbles were tabled at the meeting, including a fossilised sea urchin, a piece of fossilised coral, a piece of volcanic rock, coal (which, it was suggested, may have been Jurassic coal from the North Yorkshire coast, or possibly just from the coal-loading depot on the Humber!) and a lump of pure peat, rounded off like a pebble.

MAMMALS (Sarah Priest)

The only mammals recorded were Grey Seal, Weasel, Brown Hare and Roe Deer. The Hare was running alongside us on the road down the peninsula and easily equalled our 20-25 km/hr.

ORNITHOLOGY (Ken White)

A total of 48 species was recorded, highlights being Little Tern and Ringed Plover chicks (3 of each seen) at Beacon Lagoons. The plovers had already been ringed at the Observatory. Fledgling Tree Sparrows were very much in evidence along Beacon Lane hedgerow. This is a species which has suffered a 97% decline nationally over the last 40 years and it was a pleasure to see them thriving here. It is likely that the large untrimmed hedges provide

important insect food for parents feeding their chicks. Two sizeable flocks of Starlings were seen, one of about 150 birds, including juveniles. There was a Curlew Sandpiper at the Beacon Lagoons showing some breeding plumage and a Cuckoo was singing and displaying on the wires. There was a steady passage south of Gannets offshore. A total of 16 species was confirmed breeding and the data will contribute to the national BTO Atlas, now in its last season of data collection.

AMPHIBIANS (Sarah Priest)

A very large number (thousands) of tiny toads was seen in the Canal Scrape area.

CONCHOLOGY (Terry Crawford)

Seventeen species of slugs and snails were recorded at the Kilnsea end of the peninsula. The most striking observation was the increased diversity in the immediate area of the tea-rooms, including *Arion fasciatus*, *Deroceras panormitanum* and *Tandonia budapestensis* as indicators of human disturbance.

LEPIDOPTERA (P.G. Tannett)

Six species of butterfly were noted. The Small Heath and newly emerged Meadow Brown were relatively common within 1km of the starting point. Only single examples were noted of the Small Tortoiseshell, Red Admiral, Ringlet and Common Blue. The Narrow-bordered 5-spot Burnet was quite plentiful; however, towards the lighthouse the species present was the 6-spot Burnet. A freshly emerged Eyed Hawk-moth was noted 1 km south of the starting point and also some Puss Moth larvae on willow. Brown-tail Moth larvae were widely distributed in moderate numbers but without the superabundance of the previous two years. Several Cinnabar, the Yellow Shell and the Brimstone Moth were also seen.

DIPTERA (Roy Crossley)

The Canal Scrape, just north of the entrance to the peninsula proper, is a well-known locality for rare birds on passage in addition to the regular breeding birds of the reed-bed and scrub. Consequently access is usually strictly limited and so the opportunity was taken to explore the site, opened specially for our visit.

Nine species of dolichopodid flies were recorded. Nowadays these are popularly, but incorrectly, called 'long-legged flies' – not to be confused with 'daddy long-legs'. If contrived anglicized names MUST be used – and I see no reason why they should be – the name ought properly to be 'long-footed flies'. Those familiar with the Warne introductory classic *Flies of the British Isles* will note that, for reasons quite beyond my comprehension, they are called 'long-headed flies'. The nine species recorded were common and to be expected on and around the muddy margins of the brackish Scrape with its stands of Common Reed and Sea Club-rush.

Hoverflies typical of such habitats were *Tropidia scita* and *Platycheirus fulviventris*. Most importantly though, were several specimens of *Sphaerophoria loewi*, of which four males were retained as vouchers. These had been assumed at the time to be the rather similar *S. rueppellii*, a mainly coastal species. *Sphaerophoria loewi* is a small, slender, rare (RDB2) hoverfly known from very few British localities, and this is the first report for Yorkshire. There is a previous record from Barton on Humber and, as the number of individuals seen at Spurn indicates an established population, there may be further colonies awaiting discovery at suitable sites along the estuary.

A short collecting trip to the salt-marsh near Warren Cottage produced a few typical dolichopodids: *Hydrophorus oceanus*, *Machaerium maritimae* and *Dolichopus diadema*. An even shorter visit to the dunes and roadsides near the lighthouse produced the dolichopodid *Medetera petrophiloides*, the large robber-fly *Dysmachus trigonus* and the hairy stiletto-fly *Thereva nobilitata*, all previously recorded at Spurn.

I also collected a few ichneumons and passed them to Bill Ely for identification. Two were new to the Spurn list: *Glypta elongata* (the first record for Holderness) and *Helictes erythrostoma*.

PLANT GALLS (Tom Higginbottom)

Finding galls in coastal areas is always challenging. Even the leaves of Sea-Buckthorn did not support the fairly common mite gall *Aceria hippophaenus*. Galls were also absent from the extensive stretches of Common Reed along the water courses. The occasional Sycamore and Alder trees were host to the common mite galls. Another mite galler *Phyllocoptes goniothorax* had rolled the edges of many Hawthorn leaves but it was surprising to also find the reddish, distinctive aphid roll of *Dysaphis crataegi*. Bean galls caused by the sawfly galler *Pontania proxima* were found on recently planted Crack Willows. The stems of Cat's-ear, particularly those growing beside the roadway, were twisted and distorted by a locally common gall wasp *Phanacis hypochoeridis*. Although only 18 different galls were found, it was still a fascinating day.

BOTANY (Richard Middleton)

Rather than trying to collect a long but incomplete list of plants for the whole area, it was considered better to spend the time in a detailed examination of the land at the base of the peninsula, particularly that managed by The Yorkshire Wildlife Trust (all within TA4115). The area also contains the artificial 'canal', a site that has been closely monitored by naturalists since its creation in 1954. In 1975 *The Naturalist* 100 (933): 59-65 carried a list of "The flowering plants of Spurn", compiled by Dr. Eva Crackles, which has provided a useful baseline with which to compare the present flora.

Well Field (TA415156) is a relatively new YWT acquisition and a management regime of hay cropping and aftermath grazing has been introduced in an attempt to reduce the nutrient levels and encourage a more diverse flora. There was still a dominance of 'agricultural' grasses with Fescues *Festuca* spp., Soft Brome *Bromus hordeaceus* and Perennial Ryegrass *Lolium perenne* abundant in the sward. Along with such common weedy species as thistles *Cirsium vulgare*, *C. arvense*, plantains *Plantago major*, *P. lanceolata* and vetches *Vicia sativa*, *V. tetrasperma*, evidence of colonisation by more desirable meadow species was observed and Carrot *Daucus carota*, Meadow Vetchling *Lathyrus pratensis*, Hoary Ragwort *Senecio erucifolius* and Meadow Barley *Hordeum secalinum* were found.

The medieval ridge-and-furrow of the adjoining Walker Butts presented a marked contrast. Here the ridges were characterised by Crested Dog's-tail *Cynosurus cristatus*, Sweet Vernal-grass *Anthoxanthum odoratum* with liberal quantities of Meadow Barley. An important find here was Spiked Sedge *Carex spicata*, determined by Don Grant, and previously reported from Spurn. Marsh Foxtail *Alopecurus geniculatus* was abundant in the intervening furrows with Saltmarsh Rush (*uncus gerardii* and surprising quantities of Sea-milkwort *Glaux maritima* demonstrating a strong saline influence. Other notable species included Yellow Oat-grass *Trisetum flavescens* and Hairy Buttercup *Ranunculus sardous*.

The vegetation of the Canal was dominated by Common Reed *Phragmites australis* and Sea Club-rush *Bolboschoenus maritimus* with good quantities of Saltmarsh Rush and Distant Sedge *Carex distans*, an uncommon plant in the vice-county. The Long-bracted Sedge *Carex extensa*, which appears on Crackles' list, could not be re-located but the Sea Rush *Juncus maritimus*, noted as first appearing in 1961, was still abundant. The saline nature of the standing water was further demonstrated by the presence of Sea Aster *Aster tripolium*, Sea Arrowgrass *Triglochin maritima*, Sea Plantain *Plantago maritima* and Wild Celery *Apium graveolens*. The adjacent bank provided a drier environment for Fairy Flax *Linum catharticum*, Pyramidal Orchid *Anacamptis pyramidalis* and Glaucous Sedge *Carex flacca*. An overall impression was gained of a reduction in diversity since the time of Crackles' list but this would be expected as the vegetation, of what was then a relatively newly created environment, progresses towards its climax.

Other notable plants seen include Pepper-saxifrage *Silaum silaus* and Agrimony *Agrimonia eupatoria*, found growing together south of the bird hide on the Canal Scrape, and Brackish Water-crowfoot *Ranunculus baudotii* and stonewort *Chara* sp. in the new scrape to the north of Warren Cottage.

MARINE (Paula Lightfoot)

Seven members and guests walked the four mile stretch along the seaward side of Spurn to record marine and coastal wildlife. During the morning the strandline was searched for mollusc shells and the egg cases of sharks and skates. As the tide receded, the group moved to the lower shore to record seaweeds and sessile fauna on the groynes and coastal defences and to explore the tide pools for mobile species.

A total of 47 species were recorded, comprising 14 seaweeds, 10 molluscs, 7 hydroids, 5 bryozoans (colonial 'moss animals'), 4 crustaceans, 3 fishes, 1 sponge, 1 marine mammal, 1 jellyfish and 1 ctenophore. The group collected a total of sixteen shark and skate egg cases, also known as mermaids' purses, from the strandline (Plate VIII).

Of particular interest were the egg cases of the Starry Skate (or Starry Ray) *Amblyraja radiata*, an IUCN Red List, deep-water species; the egg cases are rarely found washed up on beaches. The Shark Trust has been collecting egg case records since 2003 and now has a database of over 26,000 records, but only 93 of these are of Starry Skate. The dredging and shipping activity offshore from Spurn might cause these egg cases to be churned and washed up, especially after stormy weather. According to the Shark Trust's database, there is one other record from Spurn of Starry Skate egg cases in 2008.

The ebbing tide stranded large numbers of the ctenophore *Pleurobrachia pileus*, aptly called Sea Gooseberries. Yorkshire Wildlife Trust's Nature Reserve Officer stated that these strandings had just started to occur during the fortnight preceding the excursion.

Exploring the groynes and shore defences at low tide was fascinating as these structures provide the only available hard substrate for sessile fauna in an otherwise extensive area of sand. Their surfaces were densely encrusted with the barnacles *Balanus crenatus* and *Semibalanus balanoides*, both exhibiting the tubular morphology which develops when they are overcrowded. Sadly, one groyne post had become thickly entangled with fishing line which had trapped around 20 crabs (Plate VIII). The YNU members freed those that were still alive, and notified the Nature Reserve Officer so that the rest of the fishing line could be removed as soon as possible.

Newtondale (VC62) 9 July 2011 (NGR Centrum SE824940)

INTRODUCTION (Adrian Norris)

The damp conditions with outbreaks of drizzly rain failed to dampen the spirits of those members and friends who attended the meeting. The location within Newtondale (Plate IX), chosen by Mick Carroll as the meeting place, proved ideal with many interesting sites within easy walking distance. Nineteen members and friends representing 15 affiliated societies attended.

ORNITHOLOGY (Mick Carroll)

During a day of heavy showers, virtually at the end of the breeding season, we had a good day searching for birds. As we gathered at Raper's Farm car park a Crossbill flew over and a Turtle Dove was calling in the forest to the north. Brian Walker found a Pied Flycatcher, and Garden Warbler was evident. Goshawk were present past Kidstye Farm and on our first visit to Carter House a Peregrine Falcon flew over. In the forestry and rough grassland surrounding, Whitethroat, Reed Bunting, Song Thrush and Siskin occurred. At Piffle Head Nuthatch, Blackcap and Willow Warbler were seen and back up the dale on the marsh, Sedge Warbler, Reed Bunting, Wren, Willow Warbler and juvenile Redstart. At Carter House on our second visit, Lesser Whitethroat and Carrion Crows were found. Several Peregrine Falcons were calling. As we gathered back at the car park a Curlew and more Crossbill flew over and Chiffchaff was seen.

CONCHOLOGY (Adrian Norris)

The acid conditions, and very wet undergrowth bordering the roads and forest, made it very difficult to find all but the most common species. However, we did find 16 species and added 26 new records into the database which now holds 197 records for the area. One of the main projects was to relocate the small tree snail *Balea*, recorded in 2004, in order to establish which of the two species into which it has been split occurs within the area. This we did and we now know that the species at this site is *Balea haydeni*.

ENTOMOLOGY (Bill Ely)

The hoverfly *Sericomyia lapponum* (field at Kidsdyke Farm) and the tachinid *Phasia hemiptera* (car park field at Raper's Farm) were uncommon; the ichneumonids included *Glypta mensurator* (field at Kidsdyke Farm), new to VC62.

LEPIDOPTERA (Graham Featherstone)

Before leaving the grassy car parking area, during one of the sunnier spells, Graham's group spotted a single Red Admiral *Vanessa atalanta* alongside good numbers of Small Skipper *Thymelicus sylvestris*, Ringlet *Aphantopus hyperantus*, Meadow Brown *Maniola jurtina*, and Common Blue *Polyommatus icarus*. As they descended to the meadows Green-veined White *Pieris napi*, Small White *Pieris rapae* and Speckled Wood *Pararge aegeria* were seen on the roadside verges.

On the meadows themselves several Dark-green Fritillary *Argynnis aglaja* were seen alongside a solitary Small Pearl-bordered Fritillary *Boloria selene* and Small Tortoiseshell *Aglais urticae*.

A few day-flying moths were also noted including: Antler Moth *Cerapteryx graminis*; Chimney Sweeper *Odezia atrata*; Burnet Companion *Euclidia glyphica*; Silver-ground Carpet *Xanthorrhoe montanata*; Northern Spinach *Eulithis populata*; Narrow-bordered Five-spot

Burnet *Zygaena lonicerae*; Yellow Shell *Camptogramma bilineata*; Middle-barred Minor *Oligia fasciuncula*; Small Rivulet *Perizoma alchemillata*; the micro-moths *Scoparia ambigua* and Garden-grass Veneer *Chrysoteuchia culmella* and a larva of the Fox Moth *Macrothylacia rubi*.

ODONATA (John Newbould)

I visited Kidstye and recorded three species of Odonata: Common Blue Damselfly *Enallagma cyathigerum*, Golden-ringed Dragonfly *Cordulegaster boltonii* and Common Darter *Sympetrum striolatum*.

DIPTERA (Roy Crossley)

Wet vegetation, overcast skies and occasional rain were not conditions suited to collecting flies, but even so the day ended with a list of about twenty common empids and dolichopodids, of which the tiny *Syntormon zelleri* is very local in Yorkshire, although known from the nearby Fen Bog and elsewhere in Cropton Forest. Ten common hoverflies were recorded during the day, including the large and handsome wasp-mimics *Sericomyia silentis* and *S. lapponum*, seen by Bill at Kidsdyke.

Three localities were explored, all within the same 10km square: verges near Carters House towards the end of the forest track and not far south of Fen Bog, the verges near Newtondale Halt and the vicinity of Raper's Farm car park, where the umbels were attracting a few hoverflies, including the bee-mimic *Cheilosia illustrata* and the pretty black and white *Leucozona lucorum*.

The uncommon tachinid *Phasia hemiptera* was found by Bill in the car park field at Raper's Farm. The ichneumons he recorded included *Glypta mensurator* from the field at Kidsdyke Farm and *Diadegma rufipes* in the car park field, both new to VC62.

Altogether a miserable and rather unproductive day, but the company was excellent and a dot was added to the 10km square for the Empid and Dolichopodid national scheme. Also the large crane fly *Tipula fascipennis* was a new record for the square.

ORTHOPTERA (John Newbould)

I positively identified a single adult Field Grasshopper *Chlorhippus brunneus* from Levisham, although many immatures were seen.

PLANT GALLS (John Newbould)

We generated 35 records of plant galls from 27 gall-causers during the day. Among them were five fungal galls including *Triphragmium ulmariae* on Meadow-sweet *Filipendula ulmaria* and *Puccinia urticae* on Stinging Nettle *Urtica dioica*. Most of the insect galls seen are common throughout the County. However, one gall seen on the track to Stape, *Contarinia scrophulariae* on Common Figwort *Scrophularia nodosa*, appears to be new to the County and merits a separate field note.

BOTANY AND LANDSCAPE (John Newbould)

With a weather forecast of heavy showers, Adrian Norris and I adopted a recording strategy of sampling small areas adjacent to the forest roads, including Levisham Moor and places along the Cropton forest track to the west of Pickering Beck and the North York Moors railway in the parish of Newton. In contrast to the plateau around Levisham village, where a

coaxial field enclosure is laid out in an east-west direction, the terrain we surveyed in the lower valley is open moorland. Generally the forest areas are planted with conifers with native trees restricted to the margins and verges, which are usually not less than 2m in extent and provide grassland areas for flowering plants. Bracken was frequent in dry areas throughout the day, except on one valley bottom NE of Levisham Station grazed by cattle.

Some 300 botanical records were processed in Excel of which just two were ancient woodland indicators, i.e., Slender St John's-wort *Hypericum pulchrum* and Pale Wood-violet *Viola reichenbachiana*. Three sites were sampled in the Levisham parish of which one, the lowland acid grassland moor, was quite species-poor in places: NVC **U2** Wavy Hair-grass *Deschampsia flexuosa* together with NVC **U5** Mat-grass – Heath Bedstraw *Nardus stricta*–*Galium saxatile* and small areas of NVC **U6** Heath Rush – Sheep's Fescue *Juncus squarrosus* – *Festuca ovina* grassland. Herbs here were few with many, e.g., Bird's-foot-trefoil *Lotus corniculatus* confined to road margins.

The west-facing upper slopes below the Levisham village plateau were covered with Bracken whilst acid grassland was found adjacent to the road, associated with siliceous rock outcrops. Here Thyme (*Thymus pulegioides*) was frequent in a typical NVC type **U4** grassland of Sheep's Fescue, Common Bent and Heath Bedstraw (*Festuca ovina* – *Agrostis capillaris* – *Galium saxatile*) where other herbs included Rock-rose (*Helianthemum nummularium*), Quaking-grass (*Briza media*), Mouse-eared Hawkweed (*Hieraceum pilosella*), Carlina Thistle (*Carlina vulgaris*) and occasional Mat-grass. Ellenburg indicator values for these species include a pH range of 3-7 with low nitrogen levels.

Some 200m north-east of Levisham Station we surveyed a wet *Sphagnum* flush passing over siliceous rock. Five species of sedge associated with wet flushes were noted: Star Sedge *Carex echinata*, Common Sedge *C. nigra*, Smooth-stalked Sedge *C. laevigata*, Pill Sedge *C. pilulifera* and Yellow Sedge *C. viridula* subsp. *oedocarpa*. There were two insectivorous plants here: Round-leaved Sundew *Drosera rotundifolia* and Common Butterwort *Pinguicula vulgaris*, together with other herbs associated with mires including Bog Pimpernel *Anagallis tenella*, Lesser Spearwort *Ranunculus flammula*, Greater Bird's-foot-trefoil *Lotus pedunculatus* and Marsh Bedstraw *Galium palustre*. Tormentil *Potentilla erecta* was common on the adjacent dry grassland.

West of Levisham Station we sampled five sites, retiring to the car during showers. Of significance was a roadside verge sampled between GRs SE81259156 and SE81269181 on the west side of the track. Here the verge was fed by a wet flush with NVC **M27** mire of Angelica – Meadow-sweet (*Angelica sylvestris* – *Filipendula ulmaria*). Ragged Robin *Lychnis flos-cuculi* and Marsh Horse-tail *Equisetum palustre* were present, together with an associated Alder *Alnus glutinosa* NVC **W6** woodland strip. On slightly higher drier ground were some 2000 orchids, mainly the hybrid *Dactylorhiza fuchsii* x *praetermissa* (Plate IX) . confirmed by Mrs N. Sykes, together with Betony *Stachys officinalis*. On dry ground Devil's-bit *Succisa pratense* and Yellow-rattle *Rhianthus minor* were noted.

Near Raper's Farm (SE824939) a pond was recorded dominated by Bur-reed *Sparganium emersum* with Yellow-flag *Iris pseudocorus* and Marsh-marigold *Caltha palustris*. Monkey-flower *Mimulus guttatus* was in flower in the middle of the pond whilst on the margin we found Ragged Robin and Water-mint *Mentha aquatica*. Elsewhere on the road to Stape a single plant of Common Figwort *Scrophularia nodosa* was to provide a significant gall record.

**Malham (VC64) 29 July – 1 August 2011
(NGR Centrum SD893672)**

INTRODUCTION (Terry Whitaker)

Unusually for the YNU, the VC64 excursion was planned around a residential weekend and there were *ad hoc* excursions on the Sunday as well as the main excursion which met on Saturday 30th July, 2011, near Low Trenhouse Water Outlet (SD894658). A detailed description of the Malham area can be found in Circular 874 *The Naturalist* 136:(1076):76-78. Most of the members and partners/friends who attended can be seen on the terrace of Malham Tarn House in Plate XI.

The Lepidoptera Group moth-trapped extensively on the Friday to Sunday nights. The weather was mainly fair although Friday night was particularly cold (min. 4°C). Saturday was mainly sunny; on Sunday showery rain moved in but a mild, damp, calm night on Sunday gave rise to bumper moth-trap catches.

A dinner was held on the Saturday evening to mark the YNU 150th anniversary. Professor Mark Seaward gave an entertaining after-dinner speech, which rounded off an excellent meal.

Thanks to the National Trust and their tenants for access and permission to sample on their farms, especially Mr James Hall of Darnbrook Farm, Mr Bill Cowperthwaite of Tennant Gill Farm and Mr Towler of Middle House Farm. Thanks also to the Field Studies Council, particularly to all the Staff of Malham Tarn Field Centre, notably Elizabeth Judson and Robin Sutton for domestic arrangements, and the chef, Mark Dale, for some excellent meals.

WEATHER (John Newbould)

Malham FSC centre has one of the few high altitude Meteorological Office Weather Stations (adjacent to the Tarn at 350m). On Saturday the temperatures were 15.5° on the standard thermometer, with a maximum of 18.6°, a minimum of 9.0° and minimum ground temperature of 5.6°. There was no rain and seven hours of sunshine.

MAMMALS AND LOWER VERTEBRATES (Colin Howes)

The mammals evident in the landscape within sight of the Tarn House car park were predominantly associated with pastoral agriculture and human recreation. At 2.30pm, in one 360° scan with binoculars, 79 people *Homo sapiens* were counted (not including occupants of passing or stationary vehicles). The main concentrations, a school party of 27 by the outlet from Malham Tarn, 21 picnickers in the vicinity of the car park and 15 around the ice-cream van, the rest dispersed (horizon to horizon) largely along the Pennine Way. This population was constantly on the move. In close association with people were domestic dogs, up to three at any one time. Other mammals, again counted during periodic 360° scans, were species which create the major grazing pressure on the upland grassland vegetation: 61 cattle (30 cows, 30 calves and one bull), 30 sheep and two horses. The sheep count was a substantial underestimation since an uncounted but large and very vocal flock had been corralled into a local farmstead. Rabbits, corpses of which were present on surrounding C-roads, utilized the bases of drystone walls as warren entrances.

The beck, below its emergence from the Tarn, held adults and shoals of recently independent fry of 3-spined Sticklebacks. Twelve Bullheads of various sizes were located by walking upstream and dislodging stones and boulders. Interestingly, they seemed to prefer swifter-flowing, shallower (less than 10cm deep) stretches of water where the examination of

20 rocks disturbed seven fish: whereas, where people had created *ad hoc* stepping-stone crossings holding back deeper, more turbid, slow-flowing stretches, moving 20 rocks disturbed only two fish. Two small Perch were present in the stream where it passed beneath the road near the Pennine Trail car park, in an area where the waters percolate down into the underlying limestone formations. No signs of crayfish were encountered. The presence of Water Vole in the beck below the Tarn at SD894660 was indicated by groups of droppings and characteristically grazed water-edge vegetation. No reptiles were reported, though a Common Toad was encountered by Stephen Sutton in Gordale Beck at SD911661. In the plantations around the Field Centre were tracks of Roe Deer. Here also were Grey Squirrel and corpses of Common Shrew and Wood Mouse. Staff reported Brown Rat in local farm buildings. Mole hills were found in upland limestone pastures, Terry Crawford encountering them in sites at very high altitude, but the most obtrusive concentration was in the mown lawns of Tarn House where in the evening up to 20 Rabbits came out to graze.

Members leaving after the Anniversary dinner were privileged to see bats (unidentified) emerging from a nursery colony in the roof soffit of the south-eastern corner of the building to the rear of Tarn House. The journey away from the centre encountered Hedgehog and Red Fox crossing the nearby country lanes, the fox exhibiting an interestingly brindled pelage. A signal of imminent change in the local fauna was a road casualty Polecat, with dark chestnut pelage, black tail, legs and a black 'bandit' mask on the A65(T) at Thorlby (SD9652). Polecats became effectively extinct in Yorkshire by the end of the 19th century, though remnant populations were still claimed for the Pennine Dales until the 1940s. From the late 1990s there has been road casualty evidence from Garsdale and Ingleton with a 2009 record from the Malham region.

ORNITHOLOGY (Ken White and Sarah Priest)

Bird records were collected from an area approximately 6km x 6km centred on the Tarn and covering 9 tetrads, used as recording units in the current BTO Atlas. A number of the participants contributed to the list of birds seen, resulting in a combined list of 69 species, with breeding confirmed for 30 of these. The data have been submitted to the BTO Atlas (2007-11) project.

The most notable raptor sighting was an altercation between a female Merlin, two juvenile Kestrels, a Hobby (first sighting this year) and a juvenile Peregrine on Great Close Scar (Plate XII). There were at least three Peregrines in the area (one juvenile and two adults) and they now breed annually on Malham Cove, this year raising three young. Wader sightings included Curlew, Oystercatcher and Common Sandpiper as well as a Greenshank, which flew over Tennant Gill early one morning. There were good numbers of Spotted Flycatchers with at least two birds seen from the boardwalk; fledglings in the wood below High Stables, an occupied nest on Tarn House and another in a hollow tree at the bottom of Malham Cove, just at the point where all the tourists gather to look at the cliff! Also at the base of the Cove was a juvenile Green Woodpecker and a Grey Wagtail feeding young in a nest. A family of fledgling Redstarts were perching along the fence at Ha Mire Plantation; fledgling Wheatears were abundant on all the rocky pastures; at least 10 Yellow Wagtails (including fledglings still being fed by parents) were on newly-cut hay fields west of Low Trenhouse; a single Twite flew over Water Sinks. Amongst the plentiful hirundines there was a significant number of Sand Martins frequenting the cliff edge of the Tarn Moss; young Tawny Owls were calling in the woodland at Tarn House and Lesser Redpoll, Siskin and Common Crossbill were all seen in the area of Tarn Fen.

CONCHOLOGY (Adrian Norris)

The residential weekend enabled us to undertake some extensive surveys of the surrounding area which resulted in an excess of 280 records of 56 species from 25 1km squares and 34 individual sites. Highlights include numbers of the very local planorbid *Gyraulus laevis*, found amongst *Chara* extracted by Simon Warwick with the aid of a grapnel from a boat situated out on the Tarn; previously only single specimens or dead shells had been found close to the boathouse.

On this occasion no attempt was made to locate the specialities of the Malham area; however, some species such as *Clausilia dubia suttoni* had their known distribution extended even further. The highlight of the weekend came from Kirkby Malham. In this village close to the church we found a small number of brightly coloured small slugs which, on investigation, turned out to be *Arion owenii*. This is a recent addition to the molluscan fauna of Yorkshire with the only other record being from Little Matlock Wood (VC63) near Sheffield, where Rob Clinging recorded it in September 2002.

LEPIDOPTERA – Butterflies (Terry Crawford)

Butterfly numbers were low. Amongst the 12 species recorded, Green-veined White was widely but thinly distributed, including above 500m on Clapham High Mark where also a few Small Tortoiseshell were active on a patch of nettles by the limestone pavement. Highlights were ova of Northern Brown Argus found on Highfolds Scar and eight Dark Green Fritillaries in four 1 km squares (SD8766, 8966, 9165 & 9166).

LEPIDOPTERA - Moths (Plate XII) (Charles Fletcher & Harry Beaumont)

The prospect of spending two or in some cases three nights at the Field Centre gave Charles, Harry, Jill Warwick and Terry Whittaker the opportunity of setting several light-traps in a variety of habitats, including Tarn Moss, Ha Mire, Great Close Mire and High Folds. The catches on Friday night were poor, the result of temperatures dropping from 9° at dusk to a chilly 5° at dawn. Saturday night was better but the few who stayed for Sunday night found traps full of moths the following morning after a much warmer night. Daytime fieldwork added to the list and the final total was 104 species of moths, 35 micros and 69 macros. Not a bad total for an upland habitat.

Amongst the macrolepidoptera, many upland specialists were prominent. Good numbers of Red Carpet *Xanthorhoe decoloraria* were trapped at Tarn Moss with another at Great Close Mire; Dark Spinach *Pelurga comitata* at High Folds, Striped Twin-spot Carpet *Nebula salicata* at Thoragill Plantation, Northern Rustic *Standfussiana lucerneae* at Ha Mire and Haworth's Minor *Celaena haworthii* at Ha Mire and Tarn Moss were new to many observers. The only ear moths proved, on dissection, to be Large Ear *Amphipoea lucens*, while Confused *Apamea furva* was found at several sites, allowing comparison with the similar and commoner Dusky Brocade *Apamea remissa*. Scarce Silver Y *Syngrapha interrogationis* was trapped at Tarn Moss and a spectacular green form of the larva of Red Sword-grass *Xylena vetusta* was found at the same site.

Among the smaller moths *Ochsenheimeria urella* was found during the day near the Field Centre and at Great Close Mire, providing the first VC64 records. A single *Scoparia ancipitella* at Tarn Moss was the first to be recorded in the county for twenty years, while the last VC64 record was as long ago as the early years of the 20th century. A notable find was *Bryotropha galbanella*, one of which was attracted to mv light but the species was then seen flying in numbers at Tarn Moss at 0630hrs, the first records since the moth was found at

Malham in the late 1950s and early 1960s. Malham Tarn remains the only English locality for this moth, otherwise known from Scotland.

HYMENOPTERA - PARASITICA (Bill Ely)

The orange ichneumon *Ophion pteridis* was collected by every light trap on site; Charles Fletcher and Jill Warwick also collected *Alexeter nebulator* in their traps at Great Close. *Aperileptus albipalpus* from the woods at Tarn House found by Bill was the third Yorkshire record and the first for VC64

I took the opportunity to visit some of the less-well-worked hectads in the far west of the VC on the Friday, Sunday and Monday, with the following results: new to Yorkshire, *Tryphon abditus* at Barnoldswick; new to VC64, *Polysphincta rufipes*, *Glypta ceratites* and *Heterischnus nigricollis*, all at Barnoldswick; *Microleptes rectangulus* and *M.vigilatorius* at Newton-in-Bowland; *Cylloceria caligata* and *Dialipsis exilis* on a roadside verge at Bolton-by-Borrowdale (the only Yorkshire records of the latter were collected at Hatfield Moor six weeks earlier); *Acrolyta rufocincta* from Ing Barn, Clitheroe and *Cratichneumon viator* from Spire Farm, Clitheroe, from where *Bathyplectes exiguus* was the second Yorkshire (and second VC64) record.

DIPTERA (Roy Crossley)

The diptera fauna of the district around Malham Tarn is one of the most comprehensively studied in the whole of Yorkshire. This is largely the result of the tenure of Dr Henry Disney as Warden of the Field Studies Centre during much of the 1970s and early 80s, where he conducted courses on diptera taxonomy attended by many of today's dipterists.

A couple of decades earlier members of the YNU Entomological Section and invited guests undertook a series of annual residential surveys of the insects at Malham and these resulted in the 1963 publication *The Insects of the Malham Tarn Area* by the Leeds Philosophical and Literary Society. A substantial diptera list laid the foundation for subsequent studies and the final entry is a record of the flat fly *Ornithomya lagopodis*, associated with Red Grouse. The publication was edited by the late John Flint, for many years a leading member of the YNU and a prominent Yorkshire entomologist. It was therefore entirely fitting that his son, Peter, should provide another flat fly record, this time *Ornithomya avicularia* which he found in the Stable Block building at Tarn House. This fly is associated with a range of larger bird species.

My own dipterological studies, in keeping with the relaxed spirit of this commemorative weekend, consisted of a leisurely meander across Ha Mire. This produced a list of about fifteen common species of dolichopodids, and common species of several other families. The most interesting, and unusual, fly was a single female of the scathophagid *Gimnomera tarsea*. This is a scarce 'dung-fly' but it has a rather more salubrious life-style than others, in that the larvae live in the seed heads of Marsh Lousewort *Pedicularis palustris*, of which there were many plants just 'gone over' at Ha Mire. *G.tarsea* was reported from "Malham Tarn" in 1954, but otherwise in Yorkshire it is known from only two sites in the North York Moors and at Austwick.

SPIDERS (Arachnida, Araneae) (Richard Wilson)

The Malham area is exceptionally well recorded for spiders. Indeed, the 10km hectads which the study area straddles (SD86 and SD96) are some of the best-recorded areas in Watsonian Yorkshire, with over 1,700 records and more than 200 species associated with Malham Tarn and its environs.

Late July can be a transitional phase between the peak summer period and the late summer/early autumn specialists, of which the orb-web weavers are the most noticeable. Thus the author decided to focus his efforts on higher ground associated with the limestone outcrops around East Great Close (SD9267) at 450m above sea level, which would likely be less well recorded. He was joined by Paul Lee, who had travelled from the Suffolk coast, and with whom he had collaborated some 15 years previously when studying spiders at Minsmere RSPB Reserve, Suffolk (VC25). Much of the walk from the car park, in glorious sunshine, was spent catching up as opposed to catching spiders.

Once the pooter was out, it was quickly apparent that spiders would be hard to come by, owing to the intensively grazed sward. Attention was focused on areas of grass abutting exposed limestone boulders which could be pulled or teased away in the hope of locating specimens. A large immature male *Coelotes* (Agelenidae) was eventually contained from such habitat. There are two species in the UK of which *C.atropos* is the most likely candidate, being more frequent in the north and the only one recorded in the Malham area. Surprisingly, the last record of *C.atropos* for the hectad dates back to September 1967 by a certain Clifford Smith. The only other species of note was a mature male and female *Araneus quadratus*, swept from rushes at Great Close Mire (SD90876626; altitude: 390m). This, our heaviest species with the female particularly conspicuous in the vegetation, has a patchy distribution in Watsonian Yorkshire (see Figure 1) and, unexpectedly, has only been recorded on a single occasion in the Malham area, a juvenile, by Peter Harvey in mid June 2006. These two specimens represented the first records for SD96. Furthermore, to collect both a mature male and female at the end of July is also testimony to the early season, especially given the altitude at which the specimens were collected.

Whilst species diversity recorded was low (three spiders and one harvestman), noting the presence of nationally widespread species such as *A.quadratus* proved to be a worthwhile exercise and demonstrates the importance of not overlooking common species; as there is a danger of them not being recorded at all.

377 *Araneus quadratus* Clerck, 1757

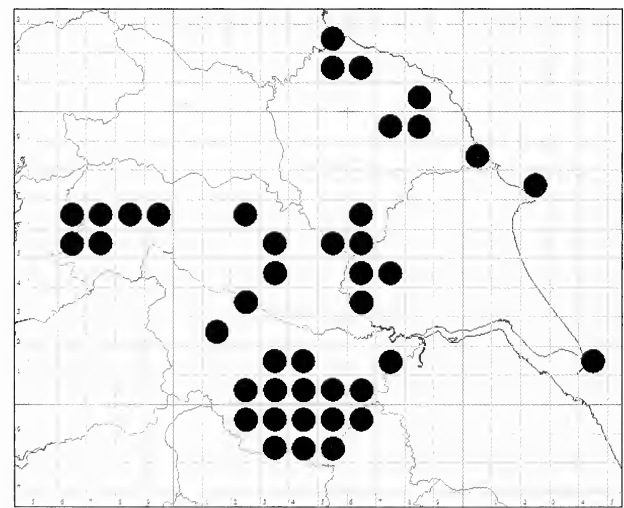


Figure 1:
Distribution of *Araneus quadratus*
in Watsonian Yorkshire
© British Arachnological Society/
Spider Recording Scheme

FRESHWATER BIOLOGY (Sharon & Peter Flint)

The first full day was taken up with the freshwater workshop where we had a tutor: tutee ratio of 2:1. To an extent this was disappointing but it meant that the tutee went away highly satisfied. The full report includes species collected from numerous aquatic habitats on and around the Malham Estate and is split into habitat sections. A number of moth traps (17 in all) were placed at locations around the estate by the lepidopterists. Although we were not present at the opening of most of the moth traps, some of the 'by-catch' specimens were given to us for identification by the moth trappers and records of adult caddis-flies, stoneflies and mayflies were made. We were present for the final moth trap opening and collected specimens from this trap ourselves as the moths were being removed and recorded.

A summary of the species seen is: stoneflies, 3; caddis-flies, 22; beetles, 20; alderflies, 1; bugs, 8; dragonflies, 2; damselflies, 2; leeches, 5; snails, 12; bivalve molluscs, 1; flatworms, 2; and shrimps, 1. With those species recorded from Gordale beck, 1 caddis-fly, 6 mayflies, 3 stoneflies, 2 beetles and 5 extra adult caddis-fly records, the total number of species recorded was 79.

PLANT GALLS (John Newbould)

In three days of surveying, just 12 records of plant galls were noted. I compared this with a private visit to Malham Cove and Goredale in September 2009, when nine records were noted. Of particular interest were two galls located at 510m on the limestone pavement of East Great Close (SD91876728) where I recorded *Aceria thomasi* on Thyme and *Dasineura urticae* on Stinging Nettle. With much Greater Burnet on Great Close pasture and Tarn Fen, I did search for the two galls associated with the species but with a negative result.

BOTANY (Phyl Abbott and Don Grant)

Having met at the car park, south of the Tarn, we crossed the road to the marsh alongside the outlet stream where we saw Flat-sedge *Blysmus compressus* and Few-flowered Spike-rush *Eleocharis quinqueflora*. We then headed north to go east of the Tarn and soon found Field Gentian *Gentianella campestris* growing very near the more common Autumn Gentian *Gentianella amarella* (Plate XII, Centre pages) for easy comparison. Nearby were Lesser Clubmoss *Selaginella selaginoides* and the leaves of Mountain Everlasting *Antennaria dioica*. We spent some time on Ha Mire and found one spike of Heath Spotted-orchid *Dactylorhiza maculata* along with several Common Spotted-orchids (*D. fuchsii*). There were leaves of Bogbean *Menyanthes trifoliata* and an attractive display of Bog Asphodel *Narthecium ossifragum*. Shining Pondweed *Potamogeton lucens*, which used to occur, twenty years ago, as a green mass in the centre of the Tarn, is now seen only as stems with leaves washed up onto the shore. On a wall near to Tarn House were Kidney Saxifrage *Saxifraga hirsuta* and one plant of Celandine Saxifrage *Saxifraga cymbalaria*, both of which had probably escaped from the garden.

On Sunday we experienced an amazing variety of topography and habitat as well as of plants. We followed the track from Tarn House and paused by the cottage to make sure that Rock Lady's-mantle *Alchemilla wickuriae* and Clustered Lady's-mantle *A. glomerulans* were still in the adjacent grassland.

Malham Tarn Fen is the location for several very rare native British plants, particularly sedges. There are some good specimens of the Fibrous Tussock-sedge *Carex appropinquata* at SD88316708, a colony of the Lesser Tussock-sedge *C. diandra* at SD88336713 alongside the board-walk and also a very rare grass. This is the Narrow Small-reed *Calamagrostis stricta* at SD884671. Another very rare species, the Large Yellow-sedge *Carex flava*, occurs at SD885670 in one of only two sites in Britain. The enlarged rectangular

pond has a large mass of Lesser Bladderwort *Utricularia minor* at SD88376712. There was just one plant of Common Wintergreen *Pyrola minor* visible from the path and Grass-of-Parnassus *Parnassia palustris* was just opening its flowers.

Next we ventured onto the raised bog where the flora was more calcifuge and included Cranberry *Vaccinium oxycoccos* and Cloudberry *Rubus chamaemorus*, neither of which had many berries. As we returned towards the main track we spotted Saw-wort *Serratula tinctoria*.

Next we headed in a northerly direction to follow the Pennine Way across colourful, species-rich calcareous grassland where we saw Montane Eyebright *Euphrasia officinalis* ssp. *monticola* in one of its few known sites in VC64.

A wonderfully varied and interesting weekend.

MYCOLOGY (Compiled by Alan Braddock)

As I intimated at the time, dry weather in July is not normally the best time to look for fungi and, despite my request for specimens being followed by several people, a mere 21 species were recorded; one of them a myxomycete. However, rather to my surprise, one of the specimens found could be considered to be 'rare' and another provoked some investigation. The first surprise came with a 'different' *Inocybe*. *I. lanuginosa* had already been found on this site so, when this other specimen turned up in the woodland behind the Field Centre, I initially considered it to be the same species. However, closer examination and use of the new key (Outen & Cullington, 2011) revealed it as probably *Inocybe cervicolor* and only the third Yorkshire record. I was pleased that this identification was confirmed by Penny Cullington. Incidentally, the second Yorkshire record was by P. Orton on 30.08.1958 at Malham Tarn House Plantation.

The second discovery, a small yellow *Omphalina*, was brought in by Judith Allinson who found it during her investigation of the sedges in Malham Fen. This genus is characterised by frequently being lichenized. This single specimen was further complicated by being small (stipe = 10mm). The discovery of the small (<.5 mm) *Botrydina*-type algal balls on the substrate eventually convinced me that this was *Lichenomphalia umbellifera*; not rare but quite difficult to name because of the number of synonyms.

Some species of *Entomophthora* were collected by Bill Ely but I was unable to identify them.

LICHENOLOGY (Mark Seaward & Albert Henderson)

Despite 200 years of lichenological investigation at Malham, more particularly in recent years due to the numerous lichen courses conducted at Malham Tarn Field Centre, its environs can still throw up surprises! The lichenologists can celebrate not only the 150 years of the YNU but also the discovery of *Lasallia pustulata*, a very rare lichen for Yorkshire; furthermore it was locally abundant, the thalli (mainly 3-7 cm diam.) forming a sward several metres long on the tops and sides of coping stones of a retaining wall to the southern outflow of Malham Tarn. It is remarkable that this macrolichen has been overlooked hereabouts; however, its size and luxuriance may not be a measure of its having been there for a long time but rather a response to nutrient-enrichment derived from bird-perches and the outflow of the Tarn. Records for Yorkshire are scarce, the only recent records (1972-73) being from the western edge of the county; there are also old records from the north-western edge (details unknown) and by James Bolton from Halifax in the late 18th century. In all, 79 lichens (some new to the two 10km squares visited) were recorded from an area within 1 kilometre of this site, mainly

from calcareous outcrops and walls of mixed geological origin, the lichen floras of the calcareous and siliceous stonework contrasting sharply; also of lichenological interest were the wooden posts protruding from, or adjacent to, these walls. Other than species found on the rudimentary soils developed from mossy and peaty junctions between rocks and stonework, no strictly terricolous lichens were recorded, and a search of immersed and semi-immersed stones in the outlet stream failed to turn up any aquatic rarities.

A survey of the hard limestone outcrops and pavement traces by the roadsides south of Malham revealed a prolific, mainly crustose flora but one of limited diversity with the uncommon *Caloplaca variabilis* perhaps the most unusual record. On a brief visit to Kirby Malham churchyard, with its mixture of stone types, it was pleasing to record in two tiny niches of the wall coping small rusty-red thalli of the black-gyrose fruited *Tremolecia atrata*.

HISTORICAL INTEREST (John Newbould)

The Mastiles Lane Roman Camp site (SD914655) bisects the Drove Road from Kilnsea to Malham and consists of a low bank on the north side 0.5m high and about 1m wide, with the boundaries in an approximately north-west direction. It is wholly within the Malham Parish. A mixture of sheep and cattle graze a quite short grass sward <150mm high. There is no scrub, the site being virtually on the upper limit for trees with water some 300m to the west.

A sign attached to the dry-stone wall which also bisects the camp describes the area. The bank was dug by the soldiers when stopping for the night, with wooden stakes being driven into the top for additional protection. The physical labour involved must have been intense. Subsequently the area became an important drove-route for the monastic lands associated with Fountains Abbey.

Gunnerside & Low Row (VC65) 13 August 2011 (NGR Centrum SD950981)

INTRODUCTION (Terry Whitaker)

Despite extensive rain during the preceding days, the weather was dry for our visit but sun was in short supply. The meeting concentrated on investigating Rowleth Great Wood (SD964978) and its surroundings. This is midway between Gunnerside and Low Row and was reached by the footpath about 100m above the valley floor and passing eastward through Heights. The botany and limnology of Gunnerside Beck were also investigated.

As one ascends from the valley, the solid geology is dominated by Carboniferous rocks. The Yordale Series (a combination of limestones, sandstones and shales) and lower Namurian (sandstones belonging to the Millstone Grit Group) are the common rock types. Calcareous grassland marks the outcrops of the Five Yard and Three Yard Limestones in Rowleth Wood. Higher up is acidic moorland over sandstone, mainly managed as grouse moor.

A detailed description of the area will be found in Circular 873 (*The Naturalist* 136:(1076):74-75 (2011)).

Thanks to Nickerson Estates and their agent Bill Emms for access permissions and especially Paul Simpson, head-keeper on the Reeth estate, for his guidance; also to Pete Roe for information and advice. The reporting meeting was held in the Low Row Institute.

PALAEONTOLOGY (Adrian Norris)

David Lindley located a block of Wensleydale (Yordale) Series stone containing fossil brachiopods of the *Productus* group (Plate X), probably young specimens of *Gigantoproductus giganteus*, in the banks of a small stream in Draygill Bottom near Shaw Farm (NZ00740532) and at an altitude of 399m. Further investigation turned up two more pieces from the same block which proved to be both parts of the casts produced as a result of the original fossils being dissolved away over the millennia. It is always a surprise to realise that such places, high in the Dales, were once part of the seabed.

MAMMALS (John Newbould, Adrian Norris & Bill Ely)

A surprising number of mammal records arose from our visit to Swaledale. Recording started with a dead Hedgehog (*Erinaceus europaeus*) outside a house in Langthwaite. A short time later, a further dead Hedgehog was seen flattened on the road. During the course of the weekend we noted a further eleven road deaths on the way home in Leyburn and Coverham.

There was evidence of 'keeping' with a gibbet of Moles in Langthwaite, metal Rabbit traps on Gunnerside Gill and a Stoat caught in a trap at Stonedale Bridge. Peter Flint reported a live Stoat from Gunnerside Gill. Bill Ely called a Weasel just east of Muker whilst David Lindley watched Common Rat in Low Fremlington.

With the help of the Sutton Poyntz Biodiversity Group's bat detector, we recorded ten Soprano Pipistrelles around Grinton Church at dusk on 13th August, together with one Common Pipistrelle followed by a single Soprano Pipistrelle west of Low Fremlington. There was no activity over the River Swale at Grinton Bridge. There were three visitors resident in Gunnerside who anecdotally reported Red Squirrel *Sciurus vulgaris* seen in the previous two weeks.

ORNITHOLOGY (John Newbould & Jill Warwick)

We spent from 12-14 August surveying in Swaledale, Arkengarthdale and moorland tops to Tan Hill in the north and Cogden Moor, east of Grinton. The report is based principally on records submitted by John Newbould, Jill Warwick and birdwatcher Steve Clough, who was walking in Gunnerside Gill.

Some 82 records were collated, involving 39 species, of which five are classified as Red Data: single Ring Ouzel (S. Clough); parties of 30 and 21 Starling at Grinton and Gunnerside villages respectively; House Sparrow in nearly all habitations (especially in valley bottoms) from Grinton at 176m up to Stonesdale at 440m; two small parties of Linnet and a lone Spotted Flycatcher near Gunnerside Beck (J. Newbould/S. Clough). With grouse shooting starting, Red Grouse were sensibly keeping near the roads, although the quite dense fog and drizzle must have spoilt the day. Just one pair of Curlew was noted at Dry Gill, with one party of Lapwing on the moorland top (J. Newbould) and another group reported from the meadows south of Rowleth Great Wood. There were two records of Raven from Gunnerside and Low Fremlington, whilst Green Woodpecker was heard calling in three locations. As members were gathering in Gunnerside, a solitary Swift exited from the eaves of a building close by (breeding?); there were at least three active House Martin nests on the nearby Village Institute and a flock (50+) of raucous Jackdaws flew overhead. A possible Sand Martin breeding site was noted by the River Swale, south of Low Row (J. Newbould).

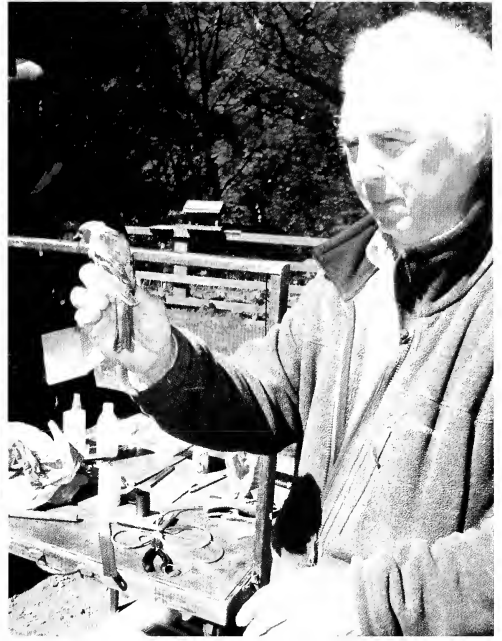


Plate XIII. Images from the Scarborough BioBlitz (see p227-229) (clockwise from top left):

Bill Ely demonstrates insects to attentive students. *M.Harvey*

John McEachan holds a Chaffinch *Fringilla coelebs* during the bird-ringing demonstration in Forge Valley. *B.Norris*

Participants collect specimens from a rock pool on Scarborough beach. *P.Lightfoot*

A fine example of Edible Crab *Cancer pagurus*. *B.Norris*

Red Campion *Silene dioica* growing among sedge in Forge Valley. *C.Langrick*

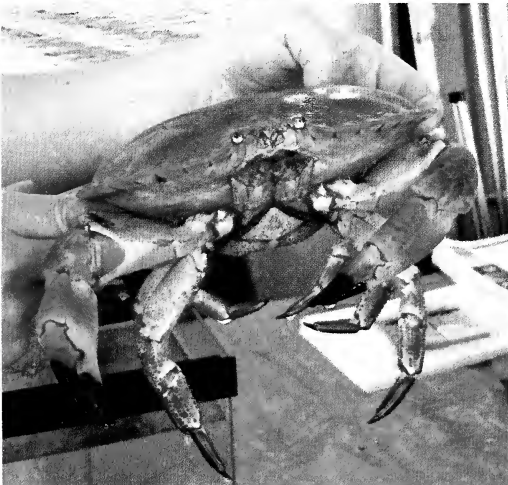
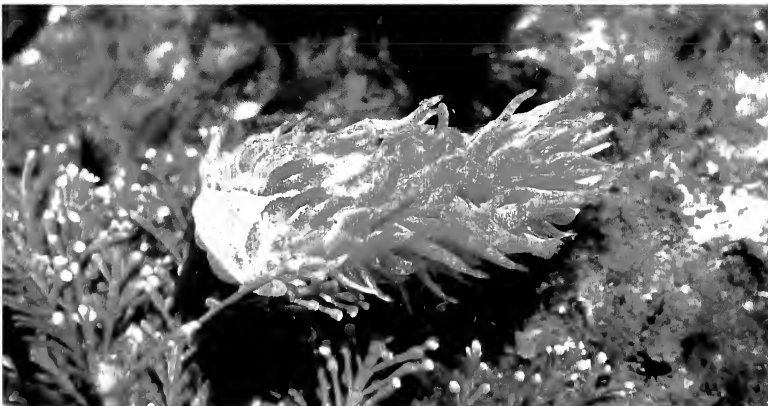




Plate XIV. Further images from the Scarborough Bioblitz

Above: Participants in the Introduction to Marine Life course identify their finds with help from Dr Frances Dipper.

Below: A Lumpsucker *Cyclopterus lumpus*, an unusual and large rockpool inhabitant, a Blue-rayed Limpet *Helcion pellucidum*, and the attractive sea-slug *Aeolidia papillosa*. P.Lightfoot, C.West



AMPHIBIANS & REPTILES (Adrian Norris)

The area surrounding Gunnerside appeared to be devoid of both reptiles and amphibians. A single dead Common Toad, a road kill, within the village of High Fremington was the only amphibian reported. Reptiles were almost as rare; however, we recorded three different sites for the Slow-worm: two road kills, both adult females, at Stang Lane (NZ001041) and at Low Fremington (SE047989) and a live juvenile under a stone near Whaw (NY98020481). This spread of sites would suggest that Slow-worm is fairly common and widespread throughout the area.

CONCHOLOGY (Adrian Norris)

We visited thirteen 1km squares over a period of 3 days and recorded 62 species of mollusc, only one of which was a freshwater species. This intensive survey by a team of five conchologists resulted in over 250 site records.

A limited time was spent within Great Rowleth Wood as a visit had been made to that area in 2009. However, 12 species were recorded there.

Most of our effort on the Saturday was aimed at Gunnerside Gill in the hope of finding the elusive Ash Black Slug, *Limax cf cinereoniger*, a single specimen of which was located in 2009 but its identity not fully established. Gunnerside Gill did, however, produce 37 species, bringing the total for the gill to 47 species. The most interesting additions included six new slugs, including *Boettgerilla pallens* and *Limacus flavus*, and two under-recorded snails *Acanthinula aculeata* and *Punctum pygmaeum*.

The weekend produced two new vice-county records. The segregate of *Arion ater* was confirmed from Stang Lane (NZ001041) on the 12th and a single specimen of the slug *Tandonia sowerbyi* was recorded from within the village of Reeth (SE039991) on the 14th.

LEPIDOPTERA - Moths (Charles Fletcher)

A total of seven MV traps were set up in pouring rain at several sites in Rowleth Wood on the Friday night. Access was tricky in dense woodland up steep muddy slopes, but the bedraggled mothing party pressed on regardless and dried off afterwards over a well-earned drink at the Punch Bowl at Low Row. Thick cloud cover kept the temperature up overnight and the catch on the Saturday morning was good for an upland site late in the season with 78 species of moths in the traps, 25 micros and 53 macros.

Amongst the microlepidoptera, the Oecophorid *Agonopterix carduella* was new for VC65 and only the second recent record for the county. Other interesting micros included *Opotegea salaciella*, *Zelleria hepariella* and *Hypatima rhomboidella*. Amongst the macrolepidoptera the most notable moths were Red Carpet *Xanthorhoe decoloraria*, Barred Chestnut *Diarsia dahlia*, Square-spotted Clay *Xestia rhomboidea* and Scarce Silver Y *Syngrapha interrogationis*. Several pugs were caught, including Bordered Pug *Eupithecia succenturiata* and Juniper Pug *Eupithecia pusillata*. The latter has declined significantly in the county and is now infrequently reported.

Saturday morning gave an opportunity for some 'leaf mining' and several more species of microlepidoptera were reported. This included *Stigmella paradoxa* on Hawthorn, not often recorded in the county. Horse Chestnut leaves contained several mines of *Cameraria ohridella*, the first occasion this had been reported from the higher ground in the Dales.

HYMENOPTERA - PARASITICA (Bill Ely)

Microleptes rectangulus at Rowleth Great Wood was new to VC65. *Diplazon laetatorius* was very numerous all weekend, including at Gunnerside and Low Row. This ichneumon is a parasite of hoverfly larvae and has a distinctive colour pattern on the hind legs, where the tibiae have a pattern of black-white-black-red. The European population is exclusively female though males have been reported from North America.

I took the opportunity to visit some of the less-well-worked hectads in the northwest of the VC on the Sunday, with the following results: new to VC65: *Stilpnus crassicornis* at Whaw and Cogden Gill, *Atractodes fumatus* at Thwaite, *Dusona sobolida* and *Tycherus ophthalmicus* (the second Yorkshire record) at Tan Hill and *Cremastus infirmus* at Cogden Gill (previously recorded at Wilsden in 1915 by Rosse Butterfield). *Pimpla wilchristi* at Thwaite was the second Yorkshire record, having been taken on the 2010 VC65 meeting.

SPIDERS (Arachnida, Araneae) (Richard Wilson)

The area around Swaledale within which this excursion took place coincides with a relatively well-recorded area within VC65 (see *The Naturalist*, 136:(1077):103, Figure 2). This said, the vice-county as a whole is the least well studied and so, despite the time of year being outside the peak survey season, it was hoped and expected to record additional species for the hectad (SD99) where it took place.

A pre-visit check identified that the area to the east of Gunnerside, around Great Rowleth Wood, straddled three tetrads (SD99P, SD99T and SD99U) of which SD99T had a few previous records. Therefore, habitats in each of these three areas were searched. The ground vegetation and shrubs were wet owing to rainfall during the previous few days and on the day itself, so collecting was largely restricted to grubbing at the base of grass tussocks and the interface between exposed boulders and grassland. Given the time of year, a large number of immature individuals unassignable to species were collected. Nevertheless, three species, *Tetrax denticulata*, *Segestria senoculata* and *Paidiscura pallens*, were recorded as new for SD99. The first two species were collected from a pile of limestone rubble near some derelict buildings on the track leading from Gunnerside to Great Rowleth Wood (SD95749823; altitude: 310m). *T. denticulata* is a characteristic species which belongs to the family Agelenidae (the same family as *Tegenaria*, otherwise known as 'the hairy spider in the bath'), though it has the appearance of a wolf-spider (Lycosidae). Nationally, it is more commonly encountered in the north of England, and is very scarce, for example, in the London area. The map provided in Figure 2 illustrates its preference for upland areas in Yorkshire, being widespread in the west (the Pennines) but scarce in the east.

In all a total of ten species was recorded which is a reflection of the time of year and weather conditions more than anything else.

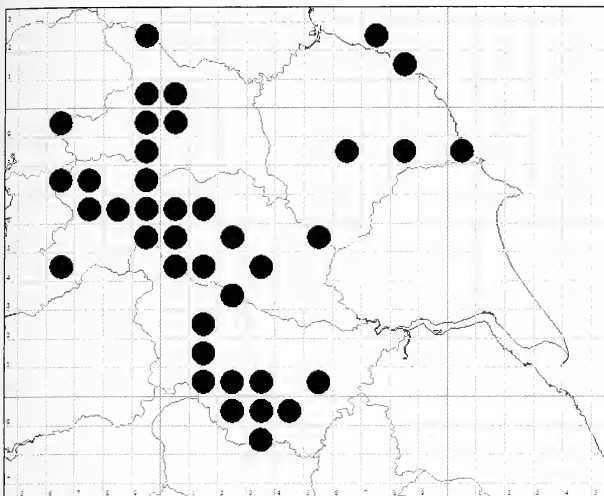


Figure 2:
Distribution of *Textrix denticulata* in
Watsonian Yorkshire
© British Arachnological Society/
Spider Recording Scheme

FRESHWATER BIOLOGY (Sharon & Peter Flint)

There were very many large perlid and perloidid stoneflies in Gunnerside Beck as well as nemourids. We found very many empty caddis cases from which the occupants had already emerged as adults. The day was not suitable for sweep sampling as it was cold and wet most of the time.

We also kick-sampled in an old mine-tunnel adjacent to Gunnerside Beck at SD940998. There was quite a significant flow of water from this tunnel and abundant growth of filamentous algae on the stony substrate. *Nemurella picteti* was particularly abundant here and this was where we took our single specimen of *Wormaldia occipitalis*. Otherwise the fauna was that of the main beck. Interestingly there were far fewer large perloidids here. 15 species from 12 families were taken.

PLANT GALLS (Tom Higginbottom & John Newbould)

In contrast to our earlier Malham meeting, Adrian Norris, David Lindley, Bill Ely and JAN spent three days sampling 1km squares. In total JAN recorded 41 species of gall whilst TH added a further seven species on a total of 33 vascular plants in 22 1km squares with one 1km square blank at the sampling point. Of the 22 squares, three had been previously surveyed in 2009 making a total of 35 1km squares covered in three years. As expected, the number of galls diminishes with altitude, woody plants being rarely seen over 400m in the Dales; on the open moorland the surveyor is reduced to examining Bracken for galls and unsuccessfully looking at Bilberry and Heather.

With many wet flushes, 11.5% of the records were the three galls commonly found on Alder *Alnus glutinosa*, which had been planted beside the pathway through Rowleth Great Wood. On a single tree tongue-like growths emerging from the female catkins were caused by the fungal galler *Taphrina alni*. On the smaller flowering plants, *Hayhurstia atriplicis* was seen on Common Orache *Atriplex patula* at Easleth Bridge and in Gunnerside. JAN had two records of *Trioza galii* on Crosswort *Cruciata laevipes* in Rowleth Great Wood and at Whaw; while on acid grassland above Whaw, the weevil galler *Apion rubens* was noted on the midrib of Sheep's Sorrel *Rumex acetosella*. Sixteen eriophyid galls were recorded ranging from the common *Aceria crataegi* and *Phyllocoptes goniothorax* on Hawthorn to the diminutive *Aceria*

thomasi on Thyme. At Thwaite, JAN found the gall *Aceria tenuis* on a single shoot of Cock's-foot; there may well be only one other Yorkshire record from VC63. On Wych Elm *Ulmus glabra* in Gunnerside, *Aceria brevipunctatus*, *Erisoma ulmi* and *Tetraneura ulmi* were recorded.

Dissection of an enlarged flower-head of Spear Thistle *Cirsium vulgare* revealed larvae of the gall-causing tephritid fly *Urophora stylata*, not too surprisingly often overlooked.

LANDSCAPE AND BOTANY (John Newbould)

A majority of the day's participants decided to walk from Gunnerside via the lowland Dales sheep meadows to Rowleth Great Wood. I agreed to survey Gunnerside Gill with the conchologists as, to find one particular slug species, required a botanical survey of the area.

The walk to Rowleth Great Wood provided Margaret Hartley, Phyl Abbott and Janetta Lambert with a list of 114 species in square SD9598. This is an area of irregularly shaped fields laid out in a coaxial pattern largely in line with the adjacent road and with the traditional Dales barns and stone walls. Most species in the list had a pH requirement in the range 5-7, although there are areas of quite acid grassland with Mat-grass *Nardus stricta*, Lousewort *Pedicularis sylvatica* and Heath Rush *Juncus squarrosus* requiring pH2. The large species list reflected low nitrogen levels and, in many instances, a water requirement. Notable here were three taxa of Lady's-mantle: *Alchemilla filicaulis* ssp. *filicaulis*, *A. filicaulis* ssp. *vestita* and *A. xanthochlora*. In some fields the limestone influence was noted with plants such as Salad Burnet *Sanguisorba minor* ssp. *minor* and Autumn Gentian *Gentianella amarella*.

In Rowleth Great Wood (SD96) 45 vascular plants were recorded. This woodland is part of the Arkengarthdale, Gunnerside and Reeth Moors SSSI (unit 3). There has been some recent planting to the north, some of which has failed. Members at the meeting commented on the amount of Sycamore in the wood, which seems a common feature of woodland in the area. The rapid growth of Sycamore may be a feature in reducing species diversity, though Wood Sorrel *Oxalis acetosella* features more strongly in these wet woods than in the Ash-Maple woods in the south of the County. There is much Hazel coppice and Hawthorn is a common shrub, with numerous quite old examples. Wet flushes provide habitat for species such as Lady-fern *Athyrium filix-femina* and Brooklime *Veronica beccabunga*. Between the road and the River Swale the narrow strip of woodland has Alder, Grey Willow *Salix cinerea* and Bay Willow *Salix pentandra*.

Meanwhile I surveyed the western side of Gunnerside Gill (SD9498 and SD9598). Rising in a short distance from 320m to 360m, we were unable to get close to the Gill itself, heavy rain having made the steep slopes difficult. Here, in addition to the Ash woodland, wet flushes led to extensive areas of NVC **W7** Alder – Ash - Yellow Pimpernel (*Alnus glutinosa*-*Fraxinus excelsior*-*Lysimachia nemorum*) habitat with Meadow-sweet *Filipendula ulmaria* and Downy Birch *Betula pubescens* at the waterside and Silver Birch *B. pendula* on dry patches. Again there was extensive Hazel, old Hawthorn, Wych Elm and the occasional Cherry *Prunus padus*. Similar vegetation patterns were noted at Whaw and Langthwaite Wood in Arkengarthdale on steep valley-side woodlands. To the west, the grassland areas were NVC **U4** Sheep's Fescue - Common Bent - Heath Bedstraw (*Festuca ovina*-*Agrostis capillaris*-*Galium saxatile*) with Tormentil *Potentilla erecta*, Mat-grass, Wavy Hair-grass *Deschampsia flexuosa*, Thyme *Thymus polytrichus* and a few rush areas.

Elsewhere numerous visits were made to the upland moors. Here we were seeing different examples of many vegetation types, for example old mineral workings with Spring Sandwort

Minuartia verna, Heather and Bilberry (NVC type **H12**) on Tan Hill and Cogden Moor; Bracken (NVC **W25**) on dry slopes; large areas of Heath Rush - Sheep's-fescue (NVC type **U6**) and many wet flushes. A small number of roadside verges were surveyed with one particularly wet verge south of Stang Bridge in Arkengarthdale, being a Meadow-sweet - Angelica (NVC **M27**) mire community with Ragged Robin *Lychnis flos-cuculi* still in flower. Most rivers and gills were in spate and, driving into the area from Leeds on Friday morning, we were surprised at the number of waterfalls seen. A mid-June visit would show the full extent of any species-rich hay meadows and also of spring woodland plants such as Bluebell and Ramsoms, missing from our surveys.

BRYOLOGY (Tom Blockeel)

The bryologists visited Rowleth Wood via the upper footpath. En route *Lophozia excisa* was found on an earthy bank in pasture. The woodland was mostly scrubby with few rock outcrops and not especially rich in bryophytes. We listed 46 species, the best find being *Barbilophozia barbata* on a boulder. Other woodland species included *Isothecium myosuroides* and *I. alopecuroides*. *Pellia neesiana* was found in a seepage. The scrubby areas had a lot of Elder and these were productive for epiphytes. *Radula complanata*, *Metzgeria violacea* (*M. fruticulosa*), *Orthotrichum pulchellum*, *Ulota phyllantha*, *Zygodon conoideus* and *Cryphaea heteromalla* were among the species noted. There was a fine growth of *Orthotrichum lyellii* on an ash tree. Later in the day a short time was spent at the junction of Oxnop Gill and the River Swale. This was an attractive area with many of the commoner calcicoles. *Plagiomnium undulatum* was found with capsules on the top of an old tree stump. *Orthotrichum rivulare* and *Leskea polycarpa* were present on tree bases and roots by the river, and *Mnium marginatum* was in sand on the river bank. A vertical wet crag had lots of *Palustriella commutata* with *Gymnostomum aeruginosum*. *Syntrichia virescens* was on an old wall, *Sanionia uncinata* among rocks and *Orthotrichum stramineum* on the trunks of sycamore. Even in the short time spent there we recorded 58 species in a small area, and this was by no means exhaustive.

Malham Tarn Field Centre 150th Anniversary weekend: A personal reflection

Andy Millard 86 Bachelor Lane, Horsforth, Leeds LS18 5NF

The concept of a field studies centre (and I've been to a few in my life) can conjure up a particular image. In my school-teaching days over three decades ago there was one (which fear of litigation forbids me from naming) where the absence of a watch tower and machine-gun post at the gate were the only features separating it from being a very convincing prisoner-of-war camp. Malham Tarn House could hardly be more different. Not only is its location superb but the architecture of the house seems to resonate with its natural surroundings and embodies a wonderful sense of history. Like many old buildings it has evolved and developed over the centuries from its origins as a simple hunting lodge around the end of the 16th Century, through its conversion to a large Georgian house by Thomas

Lister (later Lord Ribblesdale) and subsequent further enlargement in the mid-19th Century by James Morrison and his son, Walter. On the Friday evening we were fortunate enough to get a spontaneous and informal tour of the house, during which much of its history was revealed. The tour ranged from what was effectively the cellar, but which had originally been the ground floor of the hunting lodge, to the latest captivating addition to the fabric of the house, a stained glass window by local artist Jackie Hunt, facing west at a half-landing and completed in 2010. This was an intriguing and beautiful work, inspired by the elements of the landscape within which the house resides. For me, the tour had an added impact when I learnt that the house had received some very distinguished visitors in its time, including Charles Darwin, John Ruskin and Charles Kingsley, who used its location as inspiration for *The Water Babies*.

Our own room for the weekend was set apart from the house, located in the High Stables, three minutes' walk through woodland and up a steep hill (particularly steep after a long day, hearty meal and several glasses of wine). High Stables had been refurbished just over ten years ago and, far from the rather spartan accommodation I have encountered in some field study centres, provided a very spacious room which was en suite, comfortable and had a magnificent view over the incomparable Dales scenery.

My previous experience of a field study centre has been one of a rather institutional character with washing-up rotas, setting table rotas, sweeping the dining room rotas, rota rotas, etc. In fact, Malham Tarn, while being eminently civilised compared with previous experiences, did retain an element of this through the mechanism for distributing the food. Tables were long with people seated either side and those unfortunate enough (or fortunate enough, depending on your point of view) to be seated at the end of the table were responsible for serving the food on to the plates and sending them off down the line. No problem with the individual portions of roast chicken but careful judgement had to be exercised with the division of less discrete items, like baked beans at breakfast, to ensure that you, as the server, didn't end up with just the dregs, or, alternatively, an embarrassment of baked bean riches. Nonetheless, the food itself was extremely good and was provided in generous portions. For the celebration dinner on the Saturday evening the tables had been rotated through 90 degrees to allow a full waiter service, which was excellent and provided by the regular centre staff. The meal was of a very high quality with plenty of wine, a very convivial atmosphere and, combined with an amusing after-dinner speech prepared at very short notice by Mark Seaward, made for a very memorable evening. During the walk back to our room afterwards we saw bats flying low after emerging from a roost in one of the outbuildings, detectable by a jumble of squeaks and twitterings, and heard the calls of the Tawny Owls punctuating the silence as we struggled up the hill.

I've got to the fourth paragraph and said very little about the natural history! The Field Studies Centre is situated amongst an impressive diversity of habitats. Malham Tarn House directly overlooks the Tarn, the highest lake in England, and within walking distance of the house there is also fen, raised bog, limestone grassland and woodland. We certainly drank in the wonderful atmosphere of the place but in the time available were only able to look in detail at a small sample of the riches at hand. We declined the opportunity to go out with the lepidopterists, whose dedication in sallying forth with their traps on both Friday and Saturday evenings (the latter after the celebration dinner!), and at early hours on the following respective mornings to recover them, was truly impressive. Instead we joined the botanists on Saturday morning looking at the flora around the south of the Tarn but, at the same time, keeping an eye open for passing bees, of which there were very few. (The highlights of this, and all the other records, are detailed on pages 212-219.) As the day progressed, the good

weather brought out a good number of tourists and walkers, some of whom seemed a trifle bemused at the clusters of botanists staring intently at a patch of not particularly striking vegetation or the entomologists with their heads in their nets examining the catch. On the Sunday morning we were easily enticed to join the botanists again, who were going in search of the Yellow Sedge *Carex flava* on Malham Moss, the only site for it in England apart from Roudsea Wood, Cumbria. The walk was a very leisurely one as there was so much to see, particularly once we got on to the boardwalk that takes you through the fen and on to the Moss. The landscape had definitely changed over the twenty years since my last visit, not only with the growth (and in some cases, no doubt, removal) of individual trees and shrubs but also the relocation of the boardwalk. I remember it as tracing a diameter, due south right across the moss, but now it only partially encroaches upon it and returns to the west end of the fen to provide a circular walk.

Our expedition to locate the Yellow Sedge was successful, rounding off the weekend in fine fashion. Spending a couple of days in such a wonderful location with like-minded and friendly people certainly re-charged the batteries and fortified the spirit for the return to city life. Roll on the next YNU anniversary and accompanying field weekend!

Scarborough BioBlitz and environment fair 2nd – 4th June 2011

Planning and Organisation (Adrian Norris)

The Scarborough BioBlitz and Environment Fair was the largest event of its kind ever undertaken in Yorkshire and also the largest event ever organised by the Yorkshire Naturalists' Union. The event was a resounding success from the point of view of the participating public and the organisers.

Its two main purposes were to help safeguard the biodiversity of the Yorkshire coast for the long-term and to engage with visitors and local communities in celebrating the environmental riches of this coastal stretch. To stimulate more interest in the marine environment, which has been somewhat neglected since the closure of the marine laboratories in Robin Hood's Bay, the YNU also launched a Marine and Coastal Section so that the work on the coast will continue into the future.

BioBlitz was perhaps a misnomer as most bioblitz events take place over a period of 24 hours. Close to 100 naturalists, specialists in their fields, descended on the seaside town during our three days. Some travelled long distances from Scotland and Wales. We actively engaged with 1,100 people over the weekend, most of whom became involved with one or another of the numerous activities available, which ranged from botanical walks to rock-pooling or bat-detecting. We wished to get as many species and habitats as possible looked at. Thus we set ourselves a target of 1,000 species. In the event this appeared to be a tall order, particularly as still clear nights limited the number of moths recorded. The availability of specialists in some groups such as lichens also limited the possible total. However, with the involvement of both local fishermen and divers we were able to produce a number of interesting and new records for the area.

The Environment Fair, held in the Spa on the Saturday, was an opportunity for local "Friends of" groups and other organisations to display information about themselves. It attracted over 700 people and was such a success that a number of the organisations involved asked if we could establish it as an annual event. Highlights were a very large live lobster, exhibited by the North-east Indoor Fisheries, and, perhaps most interesting of all, the demonstration of owl pellet dissections, including the determination of the many small animals and birds they had been feeding on.

It is taking a considerable time to identify the vast quantity of small invertebrates collected during the three days, as well as checking and processing the data. Five months after the event we still do not have all the material identified. However, from interim reports it looks as if we will eventually have identified and recorded more than the 1000 species we set as our provisional target. Members may also like to know that over two dozen BAP species have been reported.

Large numbers of photographs were taken over the three days, many of which can be found on the YNU website www.ynu.org.uk/scarboroughbioblitz

The BioBlitz was, of course, a celebration of the YNU's 150th year and, as such, was designed to maximise publicity for the YNU and thus involve any potentially new members who were participating. A significant amount of media coverage was produced by the event: two and a half minutes of TV coverage by BBC Look North; on June 3rd, several interviews were broadcast by Yorkshire Coast Radio and substantial spreads were published in the *Scarborough Evening News* on both June 3rd and June 6th. Valuable publicity was also provided by the event's inclusion in the email newsletter produced by Welcome to Yorkshire and circulated to thousands of subscribers.

Exploring and recording the area's biodiversity (Paula Lightfoot and Sarah West)

On the 2nd of June, YNU members surveyed the area around Scalby Ness (North Bay) and on the 3rd of June efforts were concentrated around South Bay. On the 3rd and 4th of June there were opportunities for members of the public to get involved in searching for and identifying wildlife. Activities included bird ringing in Forge Valley with the East Yorkshire Ringing Group, rock-pooling with the Yorkshire Wildlife Trust, invertebrate walks with OPAL and bat surveys. Scarborough Museums Trust ran Dinosaur Coast walks on all three days, and on one of the walks an important fossil footprint of a long-extinct crocodile was discovered. Other interesting finds included a lumpsucker *Cyclopterus lumpus* (plate XIV, preceding p221). These fish can grow up to half a metre in length, and usually inhabit deep waters (below 50 metres) and migrate to shallow waters to spawn. Male lumpsuckers guard the eggs and have modified fins to cling on to the rocks. This species is not rare but is a good-sized fish to find in a rock pool! A rare find was the yellowish-brown sea slug *Jorunna tomentosa* which feeds on sponges, for which there are no records on the NBN Gateway for the Scarborough coast, although there is a paper record from 1911. In total, 622 records of marine and coastal species (34 of them designated species) were made throughout the BioBlitz, through intertidal surveys, dive surveys and examination of fishing vessel M.F.V. Provider's catch.

In addition to the BioBlitz activities, the Yorkshire Naturalists' Union organised two courses to help volunteer recorders improve and practice their marine life ID skills for the BioBlitz. On the 21st and 22nd May, eighteen people took part in an introductory course on marine wildlife led by Dr Frances Dipper, an independent marine consultant, underwater photographer, author and lecturer who has been studying marine life for over 30 years. On the 2nd and 3rd

June, with the BioBlitz underway, a seaweed identification course was led by Dr Lin Baldock, a consultant marine biologist with extensive experience of British and Irish marine life and a particular enthusiasm for British seaweeds. Both tutors delivered excellent presentations on the ecology and diversity of British marine and coastal species, incorporating practical exercises such as seaweed pressing and the identification of marine shells. The classroom sessions were followed by visits to the rocky shore at South Bay to observe and identify species *in situ* and to collect specimens for identification in the classroom. Much use was made of the YNU's new projecting microscope which was purchased with funding from OPAL.

A total of 77 species was recorded during the Introduction to Marine Life course. Some interesting finds included a tadpole-like fish known as a 'sea snail' (*Liparis montagui*) and the very attractive nudibranchs *Aeolidia papillosa* and *Onchidoris bilamellata*. With Lin Baldock's guidance, participants in the seaweed course contributed a very impressive 57 algal species to the BioBlitz tally. As identifications were confirmed, labelled specimens were placed in a large tray with contributions from the whole class. Course participants included YNU members, students from the University of York and divers and snorkelers from Scarborough Sub Aqua Club. Some were complete beginners, while others had previous experience of marine biology through their studies or personal interests, but everyone agreed they had learnt a lot from the courses and were amazed by how many species they discovered during the trips to the shore each day.

Acknowledgements

We would like to thank all those who helped to put the event together, in particular the team from Natural England, who organised the Environmental Fair, and the team from OPAL/iSpot without whose help and expertise things would not have run so smoothly. We are grateful for the support of Welcome to Yorkshire (the regional tourist board) whose financial help allowed the event to take place in a safe and well-publicised manner. The purchase of high-visibility vests with the Yorkshire Naturalists' Union logo prominently overprinted ensured that all leaders could be easily seen and identified by the public, and helped ensure that no member of a group was left to explore the lower shore without a land-based lookout watching over them. Four large banners were printed and hung along the seafront, the harbour, the Spa and the Sealife Centre. Large and small posters and leaflets made sure that both visitors to Scarborough and the local public knew of the event. Much of the print was distributed by the Tourist Information Centres in Scarborough, Whitby, Filey, Bridlington, Malton and Pickering.

We thank the University of Hull for hosting courses on their Scarborough Campus. The spacious classrooms and laboratory had excellent facilities and provided extremely convenient access to South Bay.

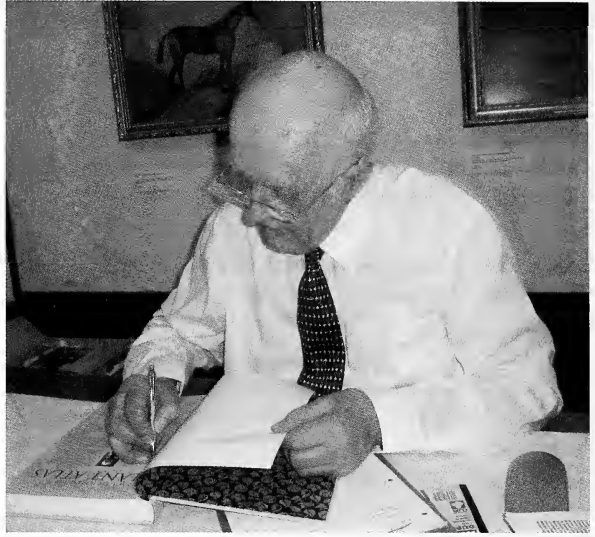
Participating organisations

(With apologies for any inadvertent omissions)

BTO (British Trust for Ornithology); East Yorkshire Bird Ringing Group; Flamborough Head Management Group; iSpot; Natural England; NBN National Biological Network; NEIFCA East Riding; OPAL (The Open Air Laboratories); The Badger Group; The Butterfly Society; The Marine Biological Association; The Natural History Museum, London; The Sealife Centre; The Yorkshire Naturalists' Union; Ryedale Natural History Society; Scarborough Borough Council; Scarborough Field Naturalists' Society; Scarborough Museums Trust; Scarborough Sub-aqua Club; Seasearch Northeast; University of Hull, Hull Campus; University of Hull, Scarborough Campus; University of York; Yorkshire Coast Maritime Archive; Yorkshire Conchological Society and the Yorkshire Wildlife Trust.

The South Yorkshire Plant Atlas – now flowering!

The *Atlas* was finally launched at a splendid event in mid-November hosted by the Doncaster Naturalists' Society at Doncaster Museum. The three authors – Geoffrey Wilmore, Jeff Lunn and John Rodwell were kept busy signing copies for the 70+ botanists, other naturalists and guests (including Professor Clive Stace and the Mayor of Doncaster) who were present to celebrate the occasion. After a generous buffet lunch and an introduction from Louise Hill (the President of the Doncaster Naturalists' Society) we were treated to presentations from all three authors about the different elements of their considerable efforts to bring this work to fruition. The importance of the opening pages covering the geology of the area, and the work of earlier botanists in South Yorkshire, plant conservation and other topics was highlighted by short talks from geologist Geoff Gaunt and from Graham Coles. Graham was also signing copies of his companion volume, *The Story of South Yorkshire Botany*, which is thoroughly researched and very readably expands on his chapter in the *Atlas*.



Geoffrey Wilmore signing copies of *The South Yorkshire Plant Atlas*.
J. Simmons



Dorothy Bramley with her Frontispiece drawings in *The South Yorkshire Plant Atlas*.
J. Simmons

The *Atlas* itself is a delight to browse though as well as being a record of much hard fieldwork and scholarship. The frontispiece is a collection of botanical paintings by local artist and YNU member Dorothy Bramley, who was present at the launch. Despite the trials and tribulations of getting the project completed, the wait was worth waiting and the *Atlas* deserves to be in the hands of all who are interested in the natural history of this part of the county.

The South Yorkshire Plant Atlas, and *The Story of South Yorkshire Botany*, both published by the YNU, are now available from botanical publishers Summerfield Books at 3 Phoenix Park, Skelton, Penrith, Cumbria CA11 9SD or www.summerfieldbooks.com

Paul Simmons

Notes on Yorkshire Mollusca – 14: Important new discoveries, splits and additions to the Yorkshire molluscan fauna

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David J. Lindley Hon. Secretary – Yorkshire Conchological Society
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Over the past few years a number of major additions and changes have been made to the molluscan fauna of Great Britain which has reinvigorated those interested in these invertebrates. In this note we would like to bring to the notice of our members a number of new and important changes and a few new discoveries which have been made to our county fauna. Between 2005 and 2007, a number of major changes were made to the nomenclature of the British molluscan fauna as a result of two publications: Anderson (2005) who suggested a large number of nomenclatural changes and Bank *et al.* (2007) who revised many of these to bring the British checklist in line with European thinking. Although some anomalies do still exist, rightly or wrongly, the nomenclature used in this note follows that of Bank *et al.* (2007).

The following are the major additions, and extensions to the known distribution of selected species within Yorkshire, since the turn of the millennium, with references to some earlier observations which have never been brought to our members' attention.

Arion (Kobeltia) owenii Davis, 1979. Stella Davis published this new species of small garden slug in 1979 as a direct result of the work she had undertaken in trying to understand the Common Garden Slug complex. Prior to this publication, we had only one species of Common Garden Slug. Stella was able to prove that this was a complex of two relatively common species (particularly in the south of England), *Arion (Kobeltia) distinctus* Mabilie, 1868 and *Arion (Kobeltia) hortensis* A.Férussac, 1819, with a third, rarer species occurring sporadically throughout Britain. *A. distinctus* has proved to be the common species in Yorkshire with both the others being rare. In September 2002, Dr R. Clinging found the first example of *A. owenii* for Yorkshire (VC63) in Little Matlock Wood, Sheffield (SK311893) with Prof. R.A.D. Cameron confirming the identification. A single specimen was located by the senior author in damp woodland at Gilbeck Bridge (NZ062104) in VC65 on October 6, 2007.

On July 29 2011, a new site for this species was found. The authors recorded it new to VC64 from Kirkby Malham (SD894609), under stones between the church car park and the stream.

Hygromia (Hygromia) cinctella (Draparnaud, 1801) (Fig. 1). In 2000 Mr R.M. Smith located this species new to the county in two gardens on the west side of Sheffield (VC63) at SK3185 and SK3387 on 14th October and 5th September. On September 9, 2006, it was located on the banks of the Leeds and Liverpool Canal at Armley, Leeds (SE2734) in VC64 on the occasion of the YNU training day. This species is being monitored nationally as one of those thought to be expanding throughout Britain as a direct result of global warming. An unconfirmed record of this species from within the grounds of Thwaite Mills Museum further down river from Armley, in early 2011, has also been received.



Figure 1. *Hygromia cinctella*, a snail newly-arrived in Yorkshire, whose spread is being monitored.

A.Norris

Two slugs, *Lehmannia valentiana* (A.Férussac, 1822) and *Limacus maculatus* (Kaleniczenko, 1851), are also thought to be expanding their range as a result of global warming. *L. valentiana* was first reported from Yorkshire in Tickhill (SK5893) in VC63 on November 14, 1999, identified by Chris du Feu (Norris, 2000). Since that date it has been recorded from vice-counties 62, 63, 64 & 65 and, indeed, has proved to be very common in the centres of some of our major cities such as Leeds and York. *L. maculatus* was first recorded from Arncliffe (SD9371) in VC64 (Norris, 1992). No further specimens were reported until 1999-2000 (Norris, 2000). Since that date it has been reported from over 150 sites throughout Yorkshire, has now been recorded from all five vice-counties and is also proving to be common in the centres of some of our major cities.

Vertigo (Vertigo) genesii (Gredler, 1856). This internationally rare snail was first recorded for Yorkshire in 2002 when Barry Colville and Ian Killeen located it on Cronkley Fell (NY8428) in VC65 (Kerney, 2002). On July 22, 2005, it was also located in a calcareous flush in Great Close Mire Field at Malham (SD9065) in VC64 (Norris, 2010). Prior to these records, this species was only known from the fossil record in Yorkshire.

***Balea* sp.** Edmund Gittenberger *et al.* (2006) published a paper which confirmed the split of one of our most widely-distributed European snails into two separate species, as first proposed by von Maltzan in 1881. *Balea (Balea) perversa* (Linnaeus, 1758) is widely reported as occurring on walls and occasionally on trees, mainly to the west of the county although it was officially recorded from all five vice-counties. Recent studies of material held in collections and further field work has changed the status of the species drastically. *B. perversa* appears to be rare in the county, with confirmed records only from VCs 64 and 65.

Balea (Balea) heydeni von Maltzan, 1881, appears to be the common species in Yorkshire with confirmed records from all five vice-counties, the most interesting of these being from VC61. *Balea* has not been recorded from this vice-county in over 100 years and was long thought to have become extinct there. It was a great surprise, therefore, to come across a small colony of *B. heydeni* on an isolated Ash tree near Bracey Bridge (TA0829) on May 5, 2007.

Segmentina nitida (O.F.Müller, 1774). Perhaps one of the most important new discoveries is, however, the re-finding of *Segmentina nitida* in Hornsea Mere (TA183465) in VC61, on the occasion of the YNU field meeting to the area on July 7, 2007. Previously it was known only from Askham Bog in York, where W. Denison Roebuck first recorded it for the county on June 2, 1879, and Hornsea Mere, where it was first recorded by J. Darker Butterell on June 6, 1881. A third site, reported by J. Hardy at Pontefract, is known only from the manuscript record and is now thought to be an identification error. It was last recorded in Yorkshire from Askham Bog in 1927 and was referred to as extinct within the county in A Yorkshire Red Data Book for Land and Freshwater Mollusca (Norris, 1998).

Lymnaea palustris (O.F.Müller, 1774) complex. The publication of a new key to the freshwater mollusca of middle Europe by Peter Glöer (2002) has resulted in the re-investigation of some of our freshwater molluscs. Thus, a second species of marsh pond snail has been identified within Britain. Previously this was one of our most distinctive freshwater snails but we now have to consider all earlier records to be part of a complex of two species. Work on separating the two, now known as *Stagnicola palustris* (O.F.Müller, 1774) and *Stagnicola fusca* (C.Pfeiffer, 1821), has only just started, with only two sets of Yorkshire specimens having been looked at to date. The first is a sample taken from the marsh at Malham Tarn (SD8867) in VC64 on August 29, 2004, the second from a stream near Bracey Bridge (TA08476141) in VC61 on May 5, 2007. Both sets proved to be *S. fusca*. At the time of publication we have no confirmed records for *S. palustris* ss. for Yorkshire.

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Bird-related museum collections in Yorkshire

Martin Limbert

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An outline of bird-related museum collections in Yorkshire is obtainable from Hartley *et al.* (1987). Archives are referred to by Bridson *et al.* (1980). More particularly, five Yorkshire museums have prepared accounts of such holdings, sometimes as part of a wider natural science inventory. These are (as named at the time) Leeds City Museum/Leeds Museum Resource Centre (Nunney and Norris, 1978; Norris, 1993, 2002), the Dorman Museum, Middlesbrough (Cutts, 1979), Clifton Park Museum, Rotherham (Ely, 1983), Sheffield City Museum (Whiteley, 1982, 1984) and the Yorkshire Museum, York (Simms, 1968, Denton, 1995).

To this ornithological list can now be added a sixth museum, Doncaster Museum & Art Gallery, although ironically the Natural Science department was closed down on 31 March 2011. A 30-page synopsis and bibliography (Limbert, in press) is to be published in 2012 by the Doncaster & District Ornithological Society. This was largely completed before departmental closure, and its preliminary sections incorporate an historical outline 1900-2011, including the associated Doncaster Zoo. The synopsis is organized under six headings: 'Spirit-preserved specimens', 'Birds' eggs', 'Skulls and bones', 'Study skins', 'Mounted taxidermy' and 'Photography and taxidermy archives/materials'. These are succeeded by an extensive bibliography. Details of availability of the paper can be obtained from the author, as above.

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An adventure into the history of a nest of the superwasp *Dolichovespula media*

Michael Archer 17 Elmfield Terrace, York, YO31 1EH

In the early evening of 4th July 2011, Mr Robinson, a bee farmer, rang me saying that he had been asked to remove a large wasp nest situated in a thick bush in a neighbour's garden. Mr Robinson remembered me as I had given a talk to the York Beekeepers several years ago. He found my details on the web and thought that I might be interested. I was, and I went with Mr Robinson to see the nest. At first, I thought it would be of the species *Dolichovespula norvegica* but, on seeing its large size, I had doubts. I captured a couple of workers and found these were superwasps, *D. media*. Mr Robinson applied a spray poison and I returned home and went to bed.

There was no wasp activity the next morning, so we proceeded to cut the nest out of the bush and had our picture taken holding the nest (Fig.1). The nest measured 29cm in height and 28cm and 22cm in diameter at its widest. The single entrance was towards the bottom of the nest facing to the outside of the bush. On removing the envelope the 342 adults (16 queens, 53 males, 273 workers) were mainly found below the four combs inside of the envelope. The original queen, which would be recognised by tattered wings, was not found.

The top, or oldest, comb consisted of 364 small cells (6mm diameter, wall to wall) and the other three combs of 734 large cells (8mm diameter, wall to wall). Rather few eggs were found in the cells (66, 21 in small cells and 45 in large cells) indicating that the original queen was not laying eggs and had probably died. The colony had probably completed its development and, after rearing the remaining brood, would be dead by the end of July. The remaining brood consisted of 254 larvae (83 in small cells and 171 in large cells) and 497 pupating sealed brood (188 in small cells and 309 in large cells). From an examination of the sealed brood and their cocoon cap characteristics, it could be determined that the sealed brood consisted of 87 workers (in small cells), 241 males (101 in small cells and 140 in large cells) and 169 queens (in large cells).

The anus of a larva is closed until the end of its development, when the undigested material in its gut is deposited as dry black material, called a meconium, at the bottom of the cell. By counting the number of meconia in the cells it is possible to estimate the number of adults that have been reared. This estimate is a maximal estimate as some sealed brood might die, although it is known that few sealed brood do die. The meconial counts, discounting the current meconia of the sealed brood, were 463 adults that had been reared from the small cells and 120 adults from the large cells. Assuming that the larvae and sealed brood would have been reared to adulthood, the colony would have produced a maximum estimate of 1334 adults (734 from small cells and 600 from large cells).

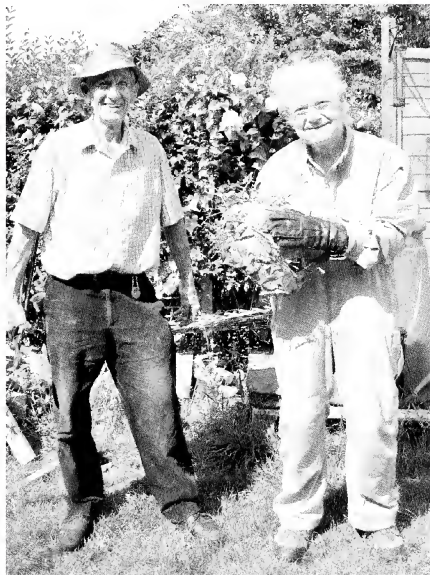


Figure 1. Michael Archer holding the superwasp nest. *Andres Jaroslavsky*

So was this a large nest? From a sample of 21 fully developed English nests of *D. media* (Archer, 2006), the mean number of cells was 1014 (range 466-1851) and adults produced 889 (358-1845). The current nest with 1098 cells and 1334 adults produced was larger than the mean nest but not as large as the largest recorded nest.

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Yorkshire Naturalists' Union Conference 2012

The importance of brownfield sites for biodiversity

24th March 2012

National Science Learning Centre

Siwards Way, University of York YO10 5DD

Parking in the North Car park (signposted off University Road), free at weekends. Alternatively, if coming by train, catch bus No. 4 from station towards University, and alight at University stop 2.

Registration starts at 9.15, and the conference will be opened at 10.00 by Professor Phil Wheeler (Manchester Metropolitan University). There will be three sessions, one in the morning and two after lunch. The morning session looks at reclamation processes and asks "What works best for biodiversity?". A series of introductory talks will be followed by time for discussion in smaller groups. After a hot lunch, we will discuss "Managing change: Biodiversity shifts with succession". Finally, after a refreshment break, we will hear talks about challenging perceptions of brownfield sites. The conference will be closed at 17.00. We hope you can join us.

Posters and displays about brownfield sites are very welcome, poster boards will be provided. If you wish to have a poster or display, please contact Sarah via sarah.west@york.ac.uk or 01904 324577.

Cost (including lunch): £18 members, £22 non-members

Booking via Hannah Droop, c/o NEYEDC St William's College, 5 College Street, York YO1 7JF (email: membership@ynu.org.uk)

Letter to the Editors:

Species lists

It has come to my knowledge that in future no recorders' reports which consist of lists are to be published in *The Naturalist* but are to be placed on the YNU Website. I, like many others, am not on the internet. The lists are records that one would possibly wish to keep for future reference and these would be denied to those of us not on the internet. I do not remember receiving, reading or hearing any discussion on this subject.

Would the Editorial Board confirm that the above is true and, if so, would it please consider revising this decision?

M.Jill Lucas (Mrs.)

Editor's reply:

The YNU has a number of ways of communicating information to the membership, including *The Naturalist*, the *Annual Report* and the website and it is the duty of the Editorial Board to use these resources in the best interests of our members. One is not necessarily superior to the others and each has its own strengths.

In the Spring 2011 issue of *The Naturalist* I published a review of the history of ichneumon recording in Yorkshire. I hope that non-entomologists found something of interest in it just as I hope that entomologists found the articles on flowering plants, birds and mammals worth reading. At the end of the article I reported that a list of ichneumons recorded in Yorkshire had been posted on the YNU website. I am sure that no-one, including me, would want to read a list of several hundred names but it is available for reference. For example, I was asked if there was a list of South Yorkshire ichneumons for comparison with those for adjacent counties and I suggested that the species listed on the website for VC63 would be reasonably close. Over the past year the Yorkshire list has changed considerably, with around a hundred new species for the county and numerous additions to the VC lists and dates of occurrence. I agreed with the Webmaster to upload a current version of the list when this issue of *The Naturalist* went to press and that is now on the YNU website. It will already be out of date as new records are included and I anticipate uploading a replacement in a year's time. This means that the list is always as 'complete' as possible and this cannot be done with a published list.

Those recorder's or author's species lists submitted for printing as part of a report or article, but not suitable for inclusion in this journal because of length or other reason will be made available on the website. This will always be indicated.

If anyone is unable to access the website and would like a printed copy of a list (in whole or in part) then they can contact the author or the Editors and ask for one to be printed. There may, of course, be a charge to cover the printing and postage of such a list.

Bill Ely

Butterflies in Leeds

I would like to add a little to Peter Larnier's article on the spread of butterflies in Leeds in *The Naturalist* for May-August 2011. I lived at Gledhow, North Leeds from the early 1940s for about 30 years. In the mid 1940s the three whites were much commoner. The area then was somewhat more rural and the 'Dig for Victory' campaign led to there being plenty of cabbages in plots and gardens. The Large Skipper I did see singly about once in three years in the 1950s. The Holly Blue I saw at Harewood in June 1948 and again another at Gledhow about two years later. The Nidderdale colony was said to be single-brooded at that time. The Small Copper occurred in small numbers, some being near Gledhow Valley Woods.

The Speckled Wood, again in small numbers, was at Parlington Park in the 1950s. The Peacock was rare and seen only about once in two years during the 1940s and 1950s. The Small Heath I first saw near the eastern border of Alwoodley Golf Club in about 1945. It still occurs there! A single specimen of the Marbled White was seen by Dr. J.H.Elliott at Hetchell Crag in 1948. I remember the Orange Tip near Sicklinghall in the early 1950s together with the Dingy Skipper. The Dark Green Fritillary occurred at Hetchell up to about 1960.

The spread of these species from the south and east listed in the article has given us some welcome additions.

Peter Tannett

The occurrence of *Malacolimax tenellus* at Scarborough

The recent paper by Norris & Lindley (*The Naturalist* 2011, 1076 p45) describes the distribution of this distinctive slug in the Yorkshire area, but its occurrence in the Scarborough district appears to be unknown to those authors.

A specimen of this mollusc was found by myself in a coniferous area of Raincliffe Woods, Scarborough, on October 25 1982. The specimen was immediately photographed, as 6x6 colour transparencies, and the specimen left in the field. The find was duly reported, as *Limax tenellus*, and the photographs subsequently exhibited, at meetings of the Scarborough Field Naturalists' Society, to the great incredulity of those few present who had any interest in the mollusca, particularly given the limited distribution, both nationally and within Yorkshire, known at that time.

The specimen was found during photographic recording of fungi, and the date, in retrospect, is notable, since as the above authors comment, the majority of the accumulating records relate to October. Although a targeted search to elucidate its distribution in the Scarborough woods had been proposed occasionally over the years, none has yet been conducted, but given the restriction of this slug to relict and ancient woodland, and the many such woodlands within the Scarborough area, a more widespread distribution there is probable. The common occurrence, in this district, of another local slug of such woodlands, *Limax cinereoniger*, is a probable indicator of this.

David E. Whittaker

YNU Notice

The YNU has always had a policy of making records as widely available as possible to inform conservation, research and environmental decision making. In 2002 (and amended in 2007) a Recorders' Code was adopted, which instructs YNU Recorders on how they should manage and disseminate any records they hold¹. However, due to the increasing need for biodiversity information to inform land management decisions and policy making at a local, regional and national level, we felt it was necessary to introduce a more general data policy for the YNU, to ensure members are clear about what will happen to any records they submit.

This policy will be distributed to all new members of the YNU and will also be available on the YNU website. If you have any concerns or queries about the policy, please contact the Biological Records Officer at records.officer@ynu.org.uk

Hannah Droop
Biological Records Officer

Yorkshire Naturalists' Union Data Policy

1 Introduction

This document sets out the policy concerning the collection and use of biological records by The Yorkshire Naturalists' Union (YNU). It is based on guidance from the National Biodiversity Network (NBN) and ensures that individuals who provide data to the YNU understand how their records may be used and disseminated. The policy may be subject to revision from time to time and should be checked regularly by YNU members.

2 Our aims and objectives

The Yorkshire Naturalists' Union aims to promote scientific investigation of and encourage conservation of the fauna, flora and physical features of the historic county of Yorkshire. In order to achieve these aims we believe biological records held by the YNU should be made as widely available as possible to inform environmental decision making, research and education in the Yorkshire region.

3 Data sources

The YNU receives biological records collected throughout Yorkshire from a wide variety of sources. These include records collected by individual members, either from casual observations or more formal surveys; records held by associated societies of the YNU; data from YNU excursions and records from amateur naturalists from outside the YNU.

4 Data use

Records are managed by the YNU Section Recorders. Records are usually stored electronically, although there are still a number that are kept on record cards. The section databases are backed up either using the recorder's personal back up system or using the central YNU Recorder 6 database that is hosted by the Yorkshire and Humber Environmental Data Network (YHEDN). Records will be subject to quality assurance checks before being entered into a database and suppliers of data may be contacted by a YNU

¹ Bulletin (2007) 47: 79-80

Recorder if there are any queries about a record. A full list of recorders and how to contact them can be found on our website, www.ynu.org.uk

5 Data sharing

The YNU believes in making data widely available to support research, education and environmental decision-making. Records submitted to the YNU and YNU recorders will therefore be passed on to local and national recording schemes or local record centres, where they may then be entered on the NBN Gateway. Records may not be made available to the general public at full resolution, but full access will be granted to key users with a legitimate interest in the data.

Data sharing policies vary across each section of the YNU and more detailed information about how records are passed on can be found on each section's webpage on the YNU website². Contact details submitted with records will not be passed on to any individual or organisation outside of the YNU; however your name will form part of the record that is collated and disseminated.

It is impracticable to obtain permission from every individual for their records to be used in this way. Anyone who submits records to the YNU or YNU recorders is therefore considered to have given permission for their records to be made available as outlined above.

The YNU recognises that some environmental data, if released into the wrong hands, could lead to damage to the natural environment. Data suppliers are therefore able to identify data as confidential where they believe there is a risk of environmental harm in releasing the data. The reasons identified for this confidentiality will be recorded in the meta-data associated with the confidential data and will be made available to anyone requesting access to the records.

6 Terms and conditions

All data held by the YNU will remain the property of the original recorder and they retain any copyright governing its use. Suppliers of data can therefore request at any time that their records be withdrawn from the YNU, in which case recorders will stop using and distributing the wildlife information, and will delete and destroy all copies that it holds. However, copies of the wildlife information distributed before the request will not be subject to this requirement.

Anyone wishing to access data held by the YNU is encouraged to do so through the local record centres, national recording schemes or the NBN Gateway. The Records Officer or relevant Section Recorders should be contacted for more information about how to access a particular dataset.

Version 1.0
September 2011

² This information will be available shortly on the new YNU website. In the meantime please contact the Biological Records Officer (records.officer@ynu.org.uk) for further details.

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Original articles should be submitted electronically as an MS Word document to Dr A. Millard at a.millard@leedsmet.ac.uk. Scientific names should be italicised.

Please **avoid** the following:

- using tabs to tabulate information (please use MS Word table format or separate the column entries in a single row with commas and enter a paragraph mark at the end of the row).
- inserting any figures, graphs or plates into the text; indicate their proposed locations in the text and send as separate files.

Good quality, high resolution images are very welcome and should be sent as .jpg files, with a separate MS Word file containing the caption and name of the person to whom the image should be attributed.

If electronic submission is not possible, contributions should be sent to Dr. A. Millard, Woodland Villas, 86 Bachelor Lane, Horsforth, Leeds LS18 5NF (Tel. 0113 258 2482)

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